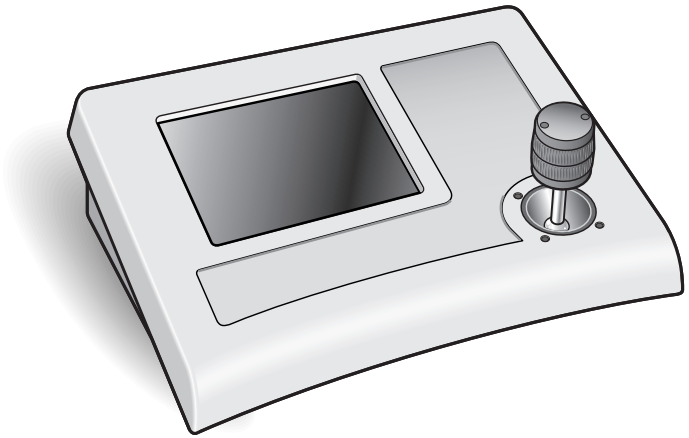
SANYO

INSTRUCTION MANUAL

VSP-9000

System Controller



About this manual

- Before installing and using this unit, please read this manual carefully. Be sure to keep it handy for later reference.
- This manual gives basic connections and operating instructions.

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English

Precautions (For UL)

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: To reduce the risk of fire or electric shock, do not expose this appliance to rain or moisture.

CAUTION: Changes or modifications not expressly approved by the manufacturer may void the user's authority to operate this equipment.

	The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generated, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

For the customers in Canada

This class B digital apparatus complies with Canadian ICES-003.

SERVICE

This unit is a precision instruments and if treated with care, will provide years of satisfactory performance. However, in the event of a problem, the owner is advised not to attempt to make repairs or open the cabinet. Servicing should always be referred to your dealer or Sanyo Authorized Service Center.

Main Unit

WARNING

■ **Never use when unit emits smoke, unusual noises, or unusual smells.**

Using under these abnormal conditions can cause fires and electric shock.

Immediately unplug the AC adapter power plug from the outlet, confirm that the smoke stops, and then request repairs from the installer or the purchasing source.

Never attempt to repair the unit on your own, as this is dangerous.

■ **Never disassemble or modify**

- Touching the internal parts is dangerous, and can cause fires and electric shock.
- Request internal inspection, adjustment, and repairs from the installer or the location of purchase.

■ **Never get unit wet**

- This unit is not waterproof or dustproof. Do not install where exposed to rain, excessive humidity, or excessive dust. This can cause fires and electric shock. Do not install in a bath or shower room.
- In the event that water enters the unit interior, turn OFF power to the unit, unplug the AC adapter power plug from the outlet, and contact the installer or location of purchase. Continued use can cause fires, electric shock, and unit breakdowns.

■ **Do not use during thunderstorms**

Do not use this during thunderstorms.

In particular, never touch the AC adapter or connection cables. This can cause electric shock.

■ **Do not install in unstable location**

- The unit may fall or topple, causing injuries or unit breakdowns.
- In the event that the unit is dropped or the cabinet is broken, turn OFF power to the unit, unplug the AC adapter power plug from the outlet, and contact the installer or location of purchase. Continued use can cause fires or electric shock.

■ **Do not use in locations with explosion risk**

Do not use in locations where flammable gas or explosive gas may exist in the atmosphere. This can cause ignition and explosion.

WARNING

Never put menu display liquid crystal in your mouth

If the menu display breaks and the liquid crystal inside has leaked, be careful never to put it in your mouth. This could cause poisoning. In the event that it contacts your mouth or eyes, wash immediately with water and consult a physician. If it contacts your hands or clothing, wipe it off with alcohol etc., and wash it away with water.

English

CAUTION

■ **Transport with care**

Unplug the AC adapter power plug from the outlet, confirm that connection cables are disconnected, and transport carefully to avoid dropping the unit or subjecting it to severe shock.

■ **Cautions for care or long-term disuse**

Unplug the AC adapter power plug from the outlet. Caring for the unit with the AC adapter connected can cause electric shock.

■ **Cleaning the interior**

For cleaning the interior, consult the installer or the location of purchase. When dust has accumulated inside the unit over time without cleaning, this can cause fires or unit breakdowns.

■ **Installation location**

This unit is comprised of precision electronic parts. Never install in the locations described below, as this can cause operation errors and unit breakdowns.

- In direct sunlight
- In extreme humidity or where humidity fluctuates wildly
- Where water could be splashed
- Near heating/cooling equipment or humidifiers.
- Where cold air from air conditioners contact the unit directly
- Where dust is extreme
- Near a spark source
- Near magnetic objects
- Near explosive materials
- Where subject to vibration

Provided AC Adapter

DANGER

■ **Only use with 100 to 240V power source voltage.**

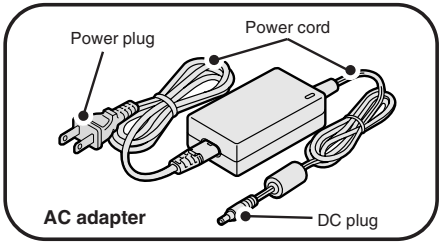
This can cause fires and electric shock.

■ **Never disassemble or modify**

- Touching the internal parts is dangerous, and can cause fires and electric shock.
- Never use as a DC power source unit.

■ **Never get unit wet**

- Never submerge in water or get unit wet. This can cause fires and electric shock.
- Do not use in a bath or shower room.
- In the event that water enters the unit interior, unplug the power plug from the outlet, and contact the installer or location of purchase. Continued use can cause fires, electric shock, and unit breakdowns.



English

Provided AC Adapter

WARNING

■ **Use only the provided AC adapter**

Use the provided AC adapter. Using a different AC adapter can cause fires or electric shock, due to differences in power cord current capacity.

■ **Never touch the AC adapter with wet hands**

This can cause electric shock.

■ **Power plug**

Never use while abnormality is not corrected.

The following situations can cause fires or electric shock.

- Never allow dust to accumulate on power plug or in outlet insertion holes. Dust and dirt on either contact portion can cause an electric short or overheating. Wipe off with a dry cloth.
- When using an outlet where humidity is high or condensation forms easily, or an outlet in a kitchen or dusty environment, unplug the power plug regularly and wipe off the dust and dirt adhering to the plug.
- Never pull the power cord to unplug the power plug.
  Always hold the power plug when unplugging.
- Never leave the power plug plugged into the outlet while the DC plug is disconnected from the power source input terminal on this unit. This can cause electric shock when touching with wet hands, or when an infant places the power plug in his/her mouth.
- Never use an outlet if the power plug is fully seated but is still loose in the outlet. This can cause fires due to overheating.
- Never use the power plug when it is damaged. When the plug has poor contact, consult the installer or the location of purchase.

■ **Power cord**

Never bundle up the power cord during use. This can cause overheating, fires and electric shock.

■ **When using an extension cord**

Be careful that the total power consumption of the connected equipment does not exceed the rated power of the extension cord.

Exceeding the rated power can cause fires.

English

CAUTION

Do not connect to other equipment

The provided AC adapter is exclusively for this unit. Connecting to other equipment can cause fires or electric shock.

Power cord

Damaging the power cord in the following manner can cause fires or electric shock.

When the power cord is damaged, consult the installer or the location of purchase.

- Never place a heavy object on the power cord, or expose to heating equipment, heated surfaces (front surface of heaters), or direct sunlight.
- Do not stress the power cord with the weight of the AC adapter unit.
- Never bundle up the power cord during use.
- Never bend, modify, or staple the power cord.

Power cord connection

Route the power cord and connecting cables with care. Tripping over power cords can cause injuries due to falls or falling equipment.

Connect power plug securely to outlet

Using with an incomplete connection can cause fires due to overheating.

Do not place in unstable location

Place the unit in a stable location.

Placing the unit in an unstable location can cause injuries or unit breakdowns, due to falling or toppling equipment.

Menu Display

- When used in a cold location, the screen will initially appear darker than normal. As the unit internal temperature rises, the brightness will return to normal.
- The display is a consumable part. When the screen is darkened, flickering, or not displaying images, the LED used in the interior illumination device has expired. Replace with a new part. (Approximate service life: About 50,000 hours with the display ON.) To replace the display, consult the location of purchase.
- Using a mobile phone within 30cm of this unit can interfere with the image.
- The display brightness may look uneven, depending on the display content.

Safety Cautions for Menu Display

- Never wipe the display with detergents or liquids containing ammonia.
- When soiled from fingerprints, wipe gently with a soft cloth. Rubbing harshly with a soft cloth can cause scratches or display abnormalities. Also, to protect the screen, do not wipe with a dry cloth or chemically treated cloth.
- Do not use gloves with a rough texture.
- The surface is scratched easily. Do not scrape, hit, or compress with a hard object. This can cause display unevenness or breakdowns.
- Do not use scrubbing sponges or sharp objects on the easily scratched surface of the display.
- Do not place heavy objects on the screen, or leave the screen under pressure.
- Do not place a container of water, chemicals, or small objects in a place where the display surface could be damaged.

Always Observe These Rules for Proper Use

Trademark

Brands and product names described in this document are trademarks or registered trademarks of their respective companies.

When not using for long periods

Unplug the power plug from the outlet.

However, this could damage the functions. Connect the power and operate the unit occasionally.

Fogging (Condensation)

Drops of water form on the outside of a glass containing very cold water. Similarly, droplets can form on the interior of this unit. This is called fogging, or condensation.

Using the unit during fogging can cause a unit breakdown.

Be careful of fogging when the environment temperature changes suddenly, such as when heating the room quickly.

Fogging does not occur while electrical current is present.

When fogging could occur...

Turn OFF the unit power, and leave the unit in its installed position for one to two hours before use.

Caring for the Unit

Unit

1. **Unplug the power plug from the outlet.**
2. **Gently wipe away any contamination, using a soft cloth.**

When heavily soiled...

3. **Immerse a cloth in neutral detergent thinned with water, wring it well, and wipe the unit. Finish with a dry cloth.**

Cautions

- Never use benzene or paint thinner to clean the unit. The unit could discolor, or paint could be removed.
- When using chemically treated cloths, note the cautions on the package.
- Do not expose the unit to volatile chemicals such as pesticides. Do not leave the unit in contact with rubber or plastic products for long periods. The unit could discolor, or paint could be removed.

English

Major Characteristics

- **Use joystick for pan/tilt/zoom operations**
- **Select your language**
- **Wide-range control of high-speed dome cameras and receivers**
- **Automatically test communication channels**
- **RS485 communication line**

■ Security

- Communication errors and warning buzzers
- Three-stage passwords and keyboard-specific settings available

Startup password:

The password screen is displayed upon turning on the controller.

Alarm reset password:

The password input screen is displayed when resetting after a warning appears on the menu display.

Setup password:

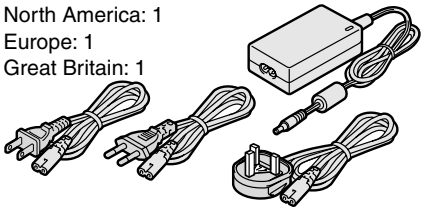
The password input screen is displayed when changing equipment settings.

Licensed Under U.S. Patent No. 4974088

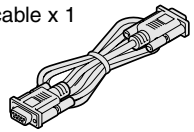
Accessories

Check that all accessories are included.

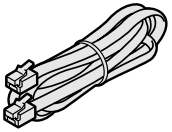
AC adapter/power cord x 3
- North America: 1
- Europe: 1
- Great Britain: 1



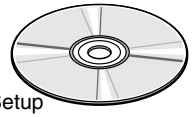
PC (RS232) connection cable x 1



Modular cable x 6
(Straight type: 150cm)

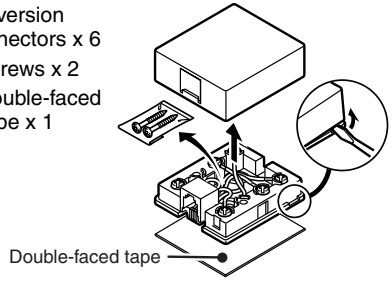


Software (CD-ROM)
- System Setup
- Language Setup
- Graphics Environment Setup



Communication conversion connectors x 6
- Screws x 2
- Double-faced tape x 1

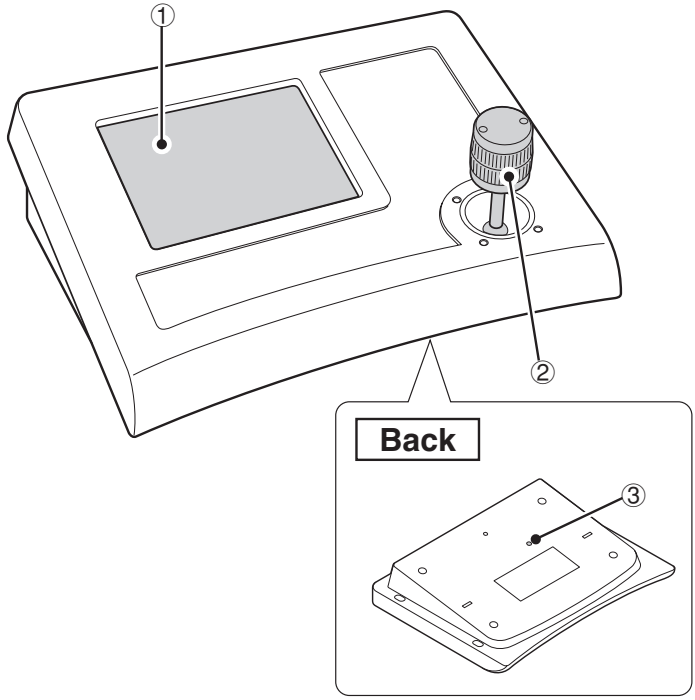
(How to disassemble)



English

Part Names

Front



① Menu Display (P11)

When the unit is turned on, the main menu is displayed.

Press the buttons in the menu to display setup screens, etc. to access settings and operate the unit.

② Joystick

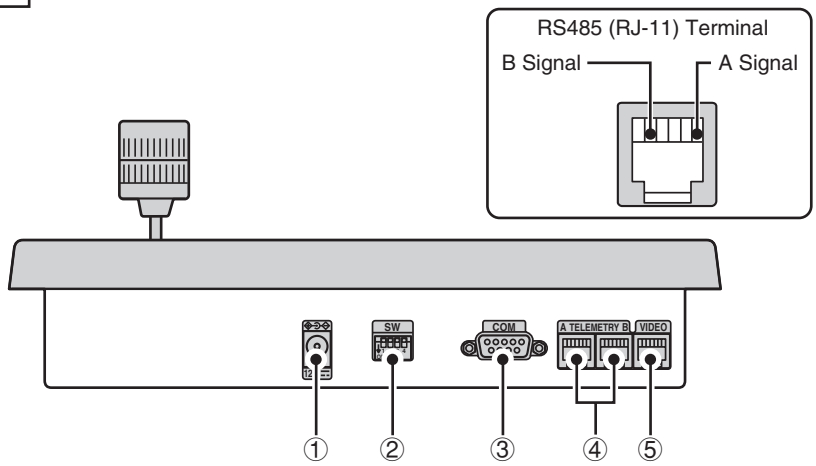
This pans, tilts, and zooms the camera.

It is also used to initialize the touch screen and to exit graphics settings.

③ Contrast adjustment volume

This adjusts the brightness when the menu display is too dark to see.

Rear

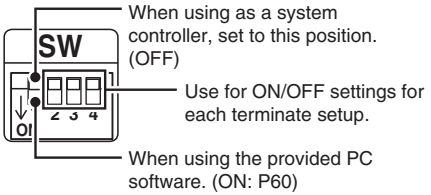


① Power terminal

Connect the DC terminal on the AC adapter provided.

② Dipswitch (SW)

Used for PC settings, communication settings, or terminate settings on this unit.


SW
ON
2 3 4
When using as a system controller, set to this position. (OFF)
Use for ON/OFF settings for each terminate setup.
When using the provided PC software. (ON: P60)

③ PC connection terminal (COM: RS-232C)

Use for connecting to a PC.

Install software on the provided CD-ROM to a connected PC to add other languages, etc. Use the language selection in system setup to select an added language. This changes the menu display language.

④ Camera communication terminal (TELEMETRY A/B)

Connect a provided or separately purchased modular cable to this terminal.

- **Terminal A:** Connect a camera.
- **Terminal B:** Connect a camera.

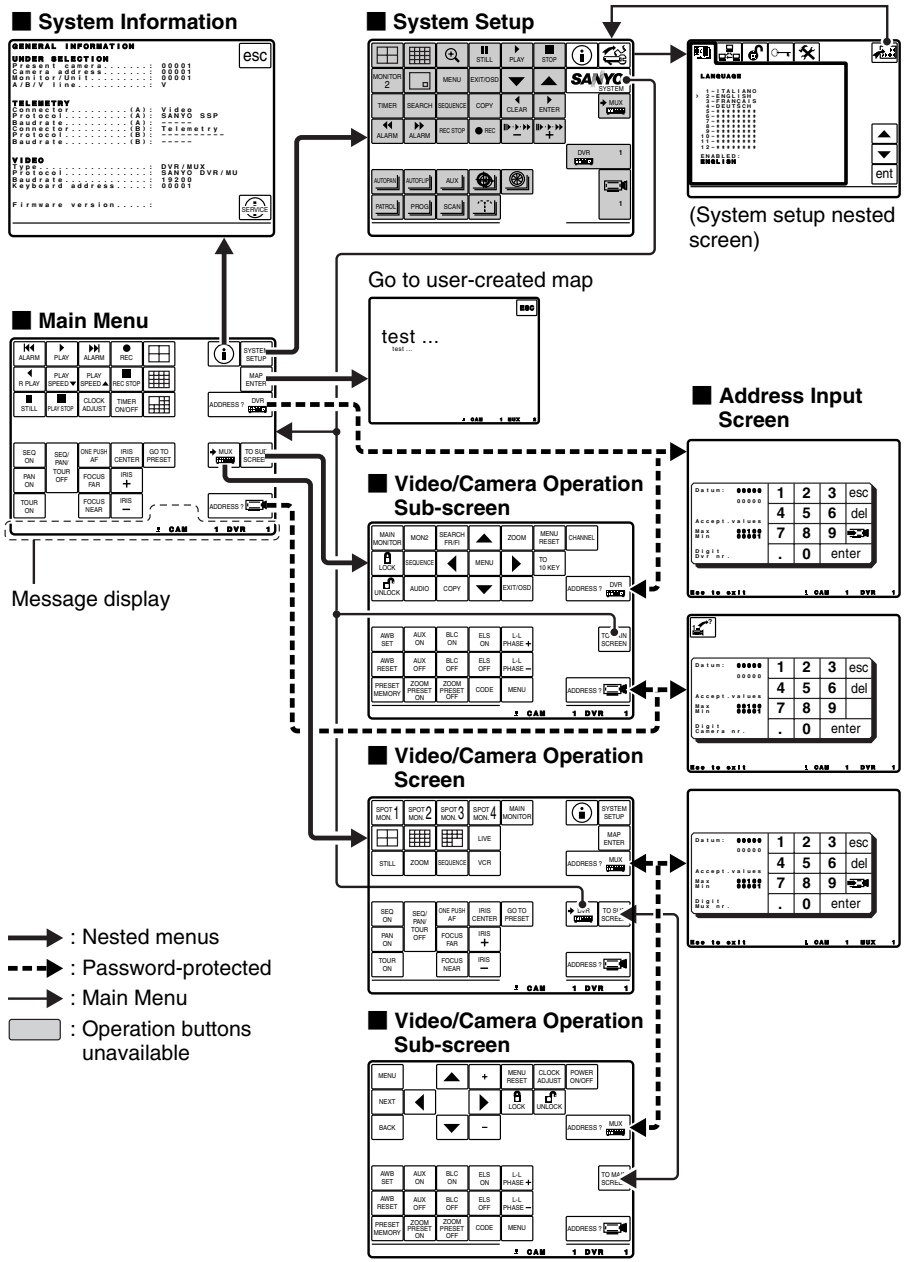
⑤ Video communication terminal (VIDEO)

Connect video equipment (multiplexer, hard disk digital recorder, etc.)

When connecting this unit with video equipment, always use the provided modular cable and communication conversion connector.

English

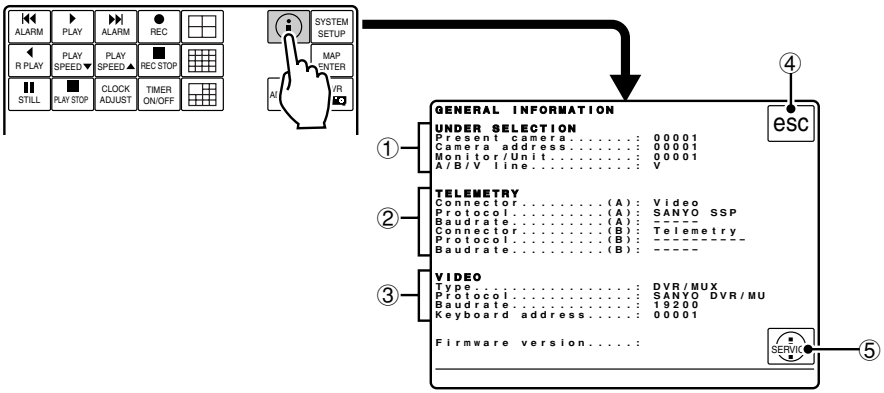
Menu Display



English

System Information

Press the ⓘ button to display the current initial settings information for this unit. These settings change when communication line settings have been changed in System Setup.



① Status of selected equipment (UNDER SELECTION)

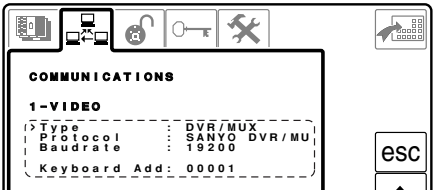
- Present camera (00001)
  Currently selected camera channel
- Camera address (00001)
  Currently selected camera address
- Monitor/Unit (00001)
  Currently selected video equipment (DVR/MUX) address
- A/B/V line (V)
  Currently selected line (displayed line sends command to camera)

② Communication status for video equipment or camera (TELEMETRY)

Displays the communication settings set in "**2–TELEMETRY**". (P45)

③ Communication status for video equipment (VIDEO)

Displays the communication settings set in "**1–VIDEO**" and the address for this unit. (P44)



- Address for this unit (Keyboard Add): 00001 (P44)

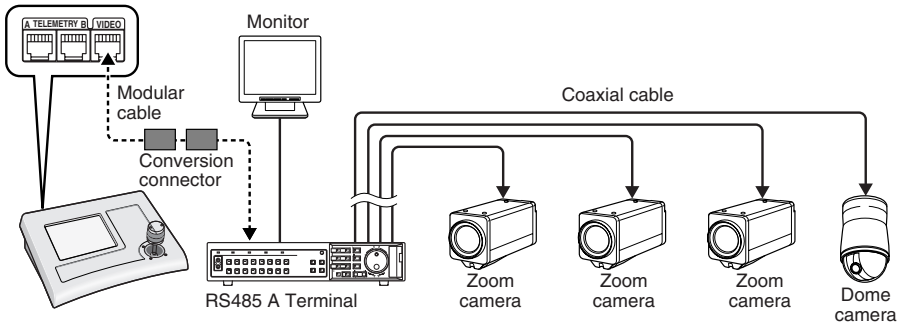
④ Returns to Main Menu.

⑤ Displays system installer information.

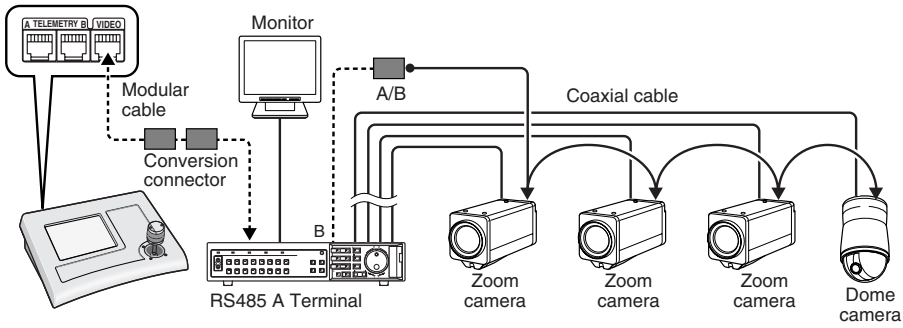
English

Sample System Connection

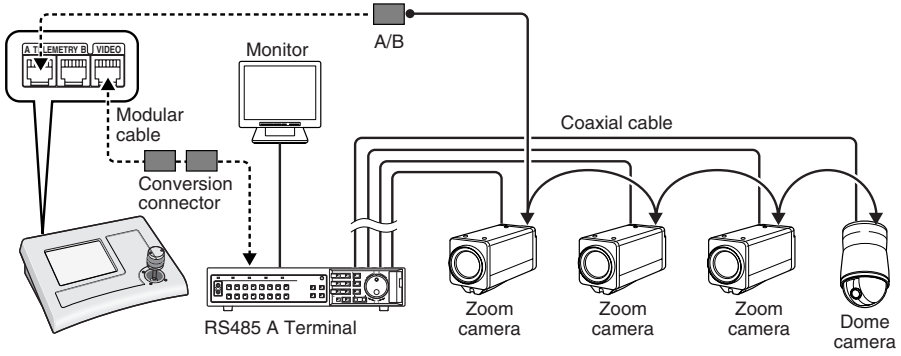
A When connected to video communication terminal (VIDEO) P15



B When connected to video communication terminal (VIDEO) P18

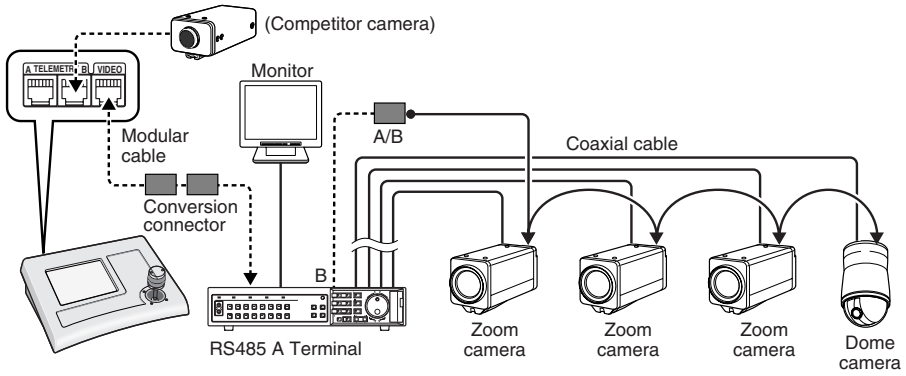


C When connected to video communication terminal (VIDEO) and camera communication terminal (TELEMETRY A) P21

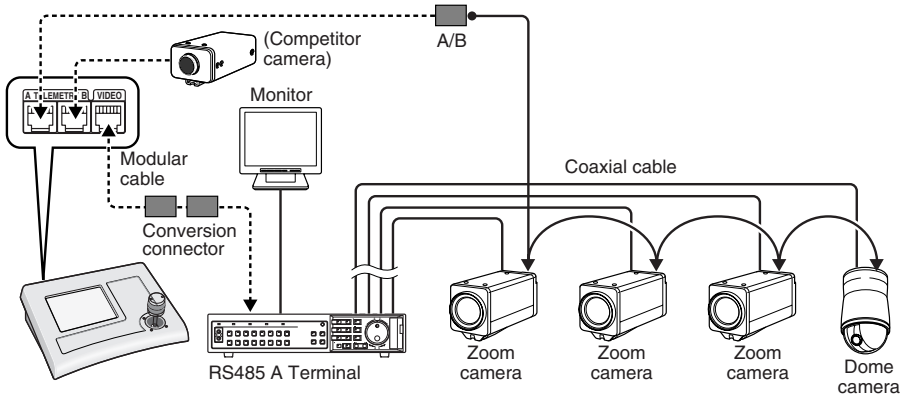


English

D When connected to video communication terminal (VIDEO) and camera communication terminal (TELEMETRY B) P24



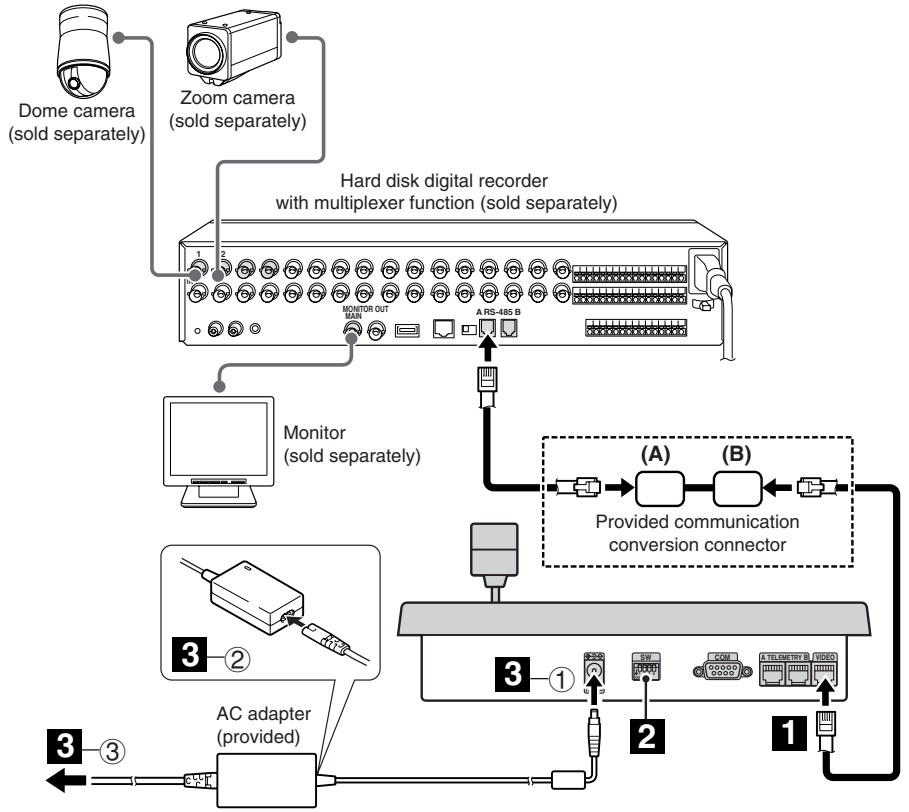
E When connected to video communication terminal (VIDEO) and camera communication terminals (TELEMETRY A/B) P27



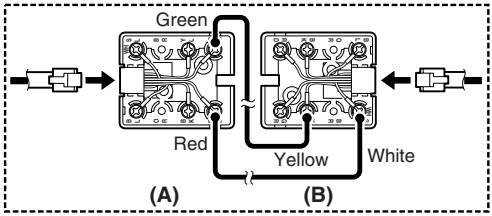
English

Connection and Communication Setup 1

A When connected to video communication terminal (VIDEO)



■ Connecting communication conversion connectors



English

■ Making Connections

1 Connect this unit to equipment for communication and operation.

Before connecting, make sure all equipment is turned off.

2 Terminate Setup.

SW1: OFF (Fixed)
SW2: OFF (For Camera A)
SW3: OFF (For Camera B)
SW4: ON (For Video)

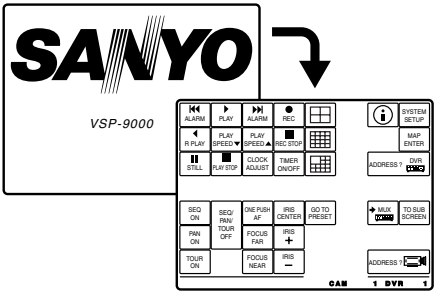
3 Connect this unit to its power source.

① Connect the DC terminal on the AC adapter to the power terminal.

② Plug power plug into AC adapter.

③ Plug power plug into AC power supply.

This unit is turned on, and the main menu appears on the menu display.

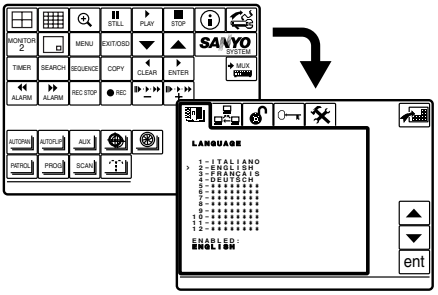


- **This unit has no power switch. Turn power ON or OFF by plugging or unplugging the DC plug from the AC adapter.**
- **When a startup password is set, the password entry screen appears. (P51)**

■ Communication Setup

1 Press the SYSTEM SETUP button, then press the button.

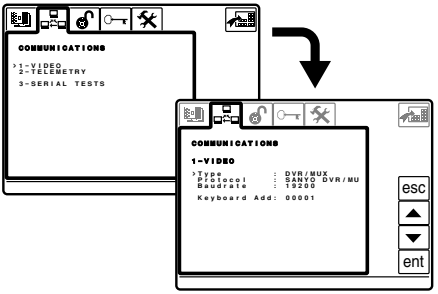
The language selection screen (LANGUAGE) is displayed. Select a language if operating in a language other than English. (P42)



2 Press the button, then press the ent button.

Displays the “1–VIDEO” screen for communications setup (COMMUNICATIONS).

When communications operations are performed only through the video communication terminal (VIDEO) on the rear of this unit, confirm that the screen is as shown in Figure 1.



(Figure 1)

Note: To change the address of this unit (Keyboard Add), see P44.

English

Check Setup:

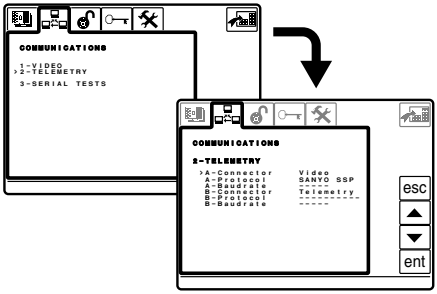
- **Type:**
  To operate a hard disk digital recorder with a multiplexer function, this should display "DVR/MUX".
- **Protocol:**
  When "DVR/MUX" is selected for "Type", "SANYO DVR/MU" is automatically displayed.
- **Baudrate:**
  "19200" is automatically displayed.
  Match the settings of the connected equipment.

3 Press the esc button.

Returns to Communication Setup selection screen.

4 Press the ▼ button, select "2–TELEMETRY", then press the ent button.

The "2–TELEMETRY" screen is displayed. Check that the settings are as shown below.

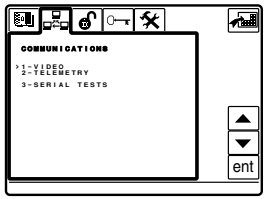


Check Setup:

- **A-Connector:**
  To operate a camera via video equipment, this should display "Video".
- **A-Protocol:**
  When "Video" is selected for "A-Connector", "SANYO SSP" is automatically displayed.
- **A-Baudrate:**
  Because 1–VIDEO is then set to "Baudrate (19200)", "– – – – –" is displayed by default.

5 Press the esc button.

Returns to Communication Setup (COMMUNICATIONS).



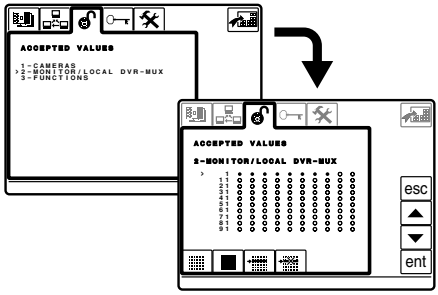
6 Press the button.

Displays Control Setup (ACCEPTED VALUES) screen.

For "1–CAMERAS" setup, see P47.

7 Press the ▼ button, select "2–MONITOR/LOCAL DVR-MUX", then press the ent button.

Set the connected DVR-MUX.



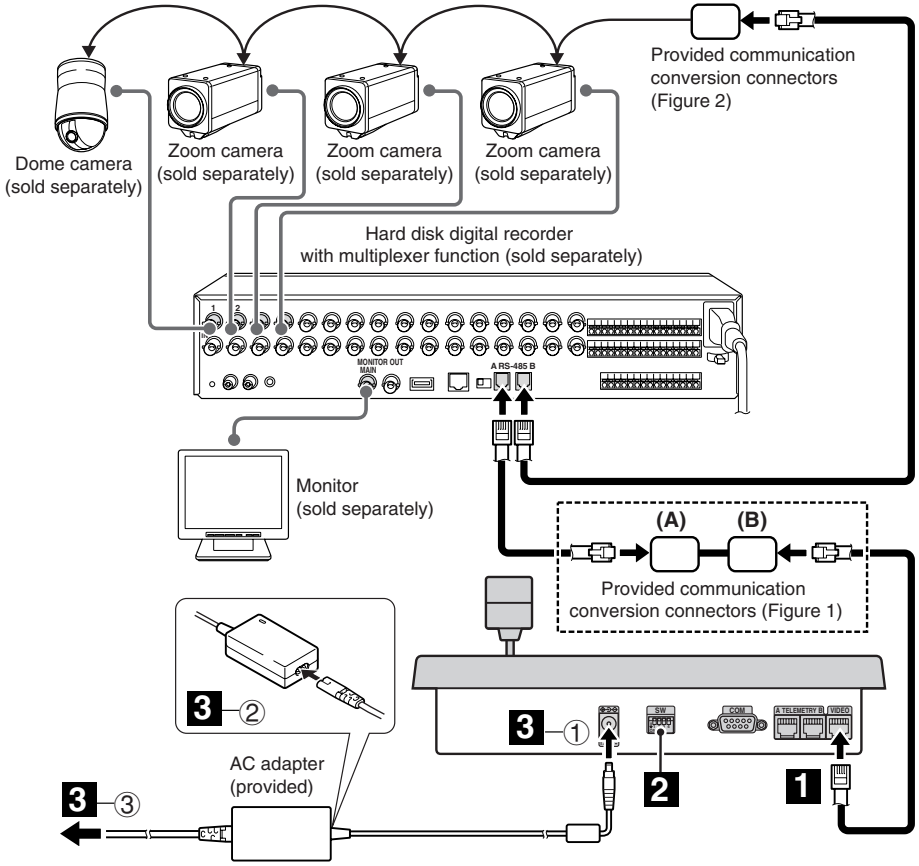
(Figure 2)

8 This completes the setup. Proceed to operating the hard disk digital recorder (P32) or the camera (P38).

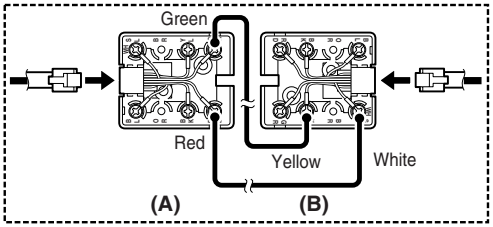
English

Connection and Communication Setup 2

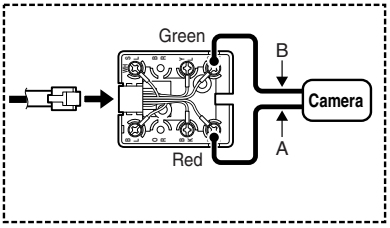
B When connected to video communication terminal (VIDEO)



■ Connecting communication conversion connectors (Figure 1)



■ Connecting communication conversion connectors (Figure 2)



English

■ Making Connections

1 Connect this unit to equipment for communication and operation.

Before connecting, make sure all equipment is turned off.

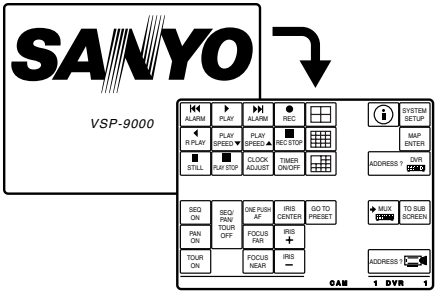
2 Terminate Setup.

SW1: OFF (Fixed)
SW2: OFF (For Camera A)
SW3: OFF (For Camera B)
SW4: ON (For Video)

3 Connect this unit to its power source.

① Connect the DC terminal on the AC adapter to the power terminal.
② Plug power plug into AC adapter.
③ Plug power plug into AC power supply.

This unit is turned on, and the main menu appears on the menu display.

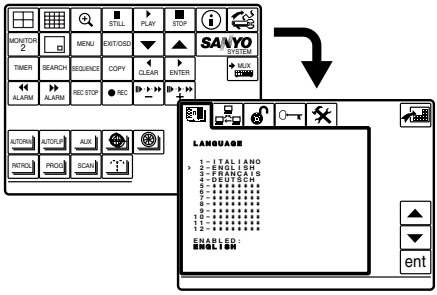


- **This unit has no power switch. Turn power ON or OFF by plugging or unplugging the DC plug from the AC adapter.**
- **When a startup password is set, the password entry screen appears. (P51)**

■ Communication Setup

1 Press the SYSTEM SETUP button, then press the button.

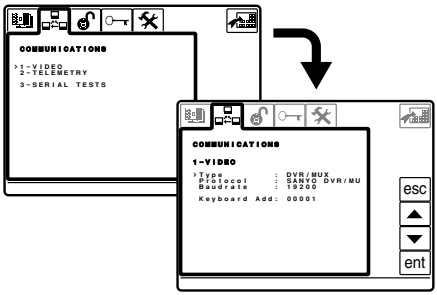
The language selection screen (LANGUAGE) is displayed. Select a language if operating in a language other than English. (P42)



2 Press the button, then press the ent button.

Displays the “1–VIDEO” screen for communications setup (COMMUNICATIONS).

When communications operations are performed only through the video communication terminal (VIDEO) on the rear of this unit, confirm that the screen is as shown in Figure 1.



(Figure 1)

Note: To change the address of this unit (Keyboard Add), see P44.

English

Check Setup:

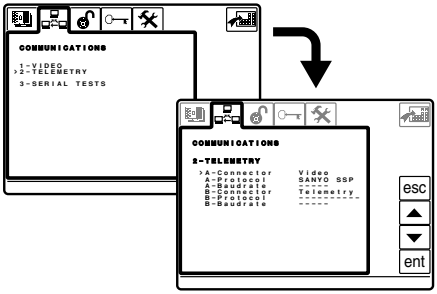
- **Type:**
  To operate a hard disk digital recorder with a multiplexer function, this should display "DVR/MUX".
- **Protocol:**
  When "DVR/MUX" is selected for "Type", "SANYO DVR/MU" is automatically displayed.
- **Baudrate:**
  "19200" is automatically displayed.
  Match the settings of the connected equipment.

3 Press the esc button.

Returns to Communication Setup selection screen.

4 Press the ▼ button, select "2–TELEMETRY", then press the ent button.

The "2–TELEMETRY" screen is displayed. Check that the settings are as shown below.

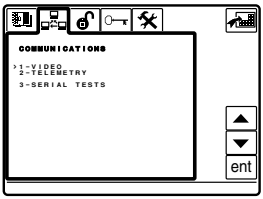


Check Setup:

- **A-Connector:**
  To operate a camera via video equipment, this should display "Video".
- **A-Protocol:**
  When "Video" is selected for "A-Connector", "SANYO SSP" is automatically displayed.
- **A-Baudrate:**
  Because 1–VIDEO is then set to "Baudrate (19200)", "– – – – –" is displayed by default.

5 Press the esc button.

Returns to Communication Setup (COMMUNICATIONS).



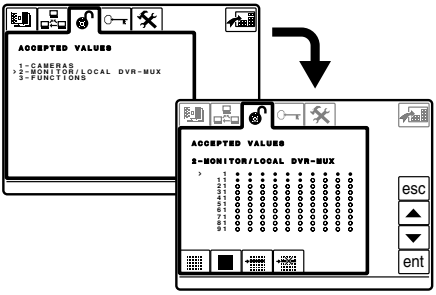
6 Press the button.

Displays Control Setup (ACCEPTED VALUES) screen.

For "1–CAMERAS" setup, see P47.

7 Press the ▼ button, select "2–MONITOR/LOCAL DVR-MUX", then press the ent button.

Set the connected DVR-MUX.



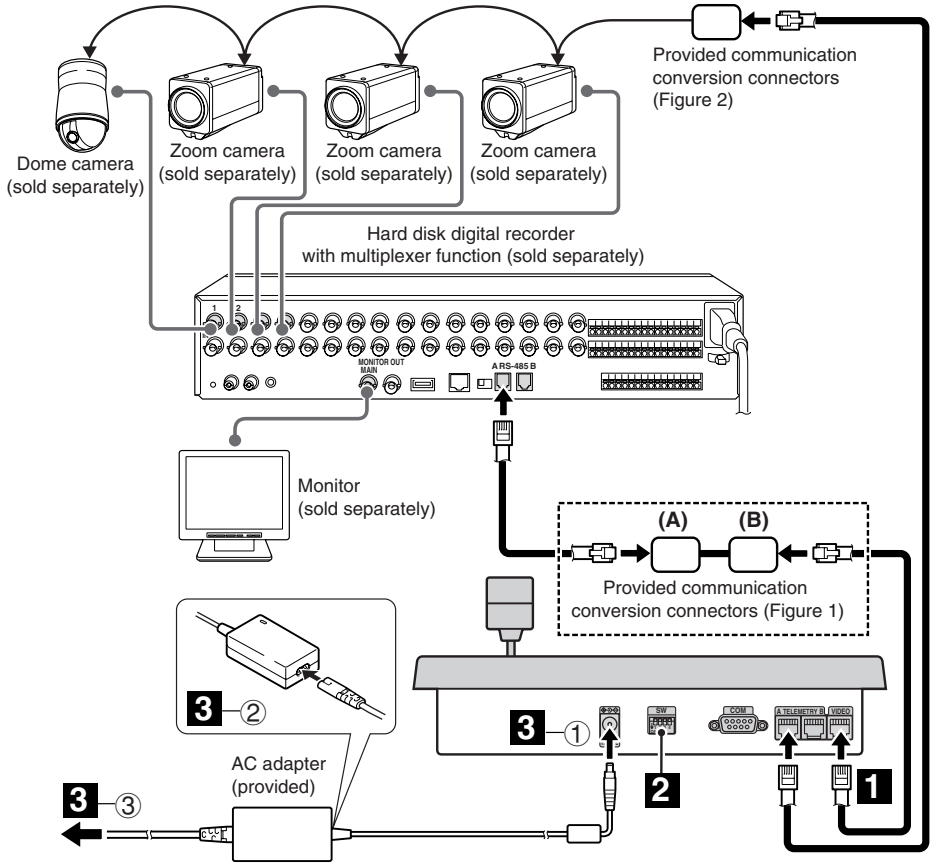
(Figure 2)

8 This completes the setup. Proceed to operating the hard disk digital recorder (P32) or the camera (P38).

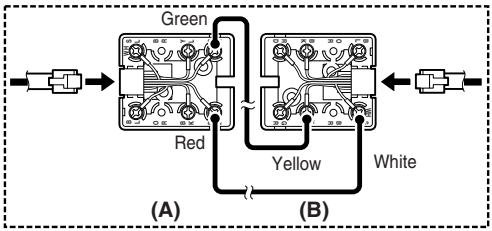
English

Connection and Communication Setup 3

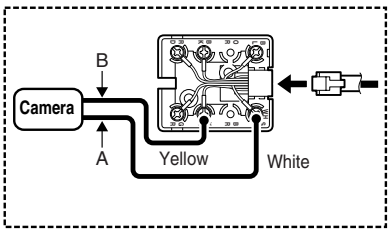
C When connected to video communication terminal (VIDEO) and camera communication terminal (TELEMETRY A)



■ Connecting communication conversion connectors (Figure 1)



■ Connecting communication conversion connectors (Figure 2)



English

■ Making Connections

1 Connect this unit to equipment for communication and operation.

Before connecting, make sure all equipment is turned off.

2 Terminate Setup.

SW1: OFF (Fixed)
SW2: ON (For Camera A)
SW3: OFF (For Camera B)
SW4: ON (For Video)

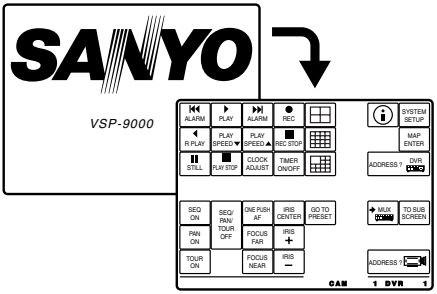
3 Connect this unit to its power source.

① Connect the DC terminal on the AC adapter to the power terminal.

② Plug power plug into AC adapter.

③ Plug power plug into AC power supply.

This unit is turned on, and the main menu appears on the menu display.

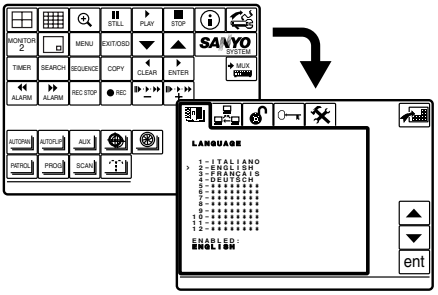


- **This unit has no power switch. Turn power ON or OFF by plugging or unplugging the DC plug from the AC adapter.**
- **When a startup password is set, the password entry screen appears. (P51)**

■ Communication Setup

1 Press the SYSTEM SETUP button, then press the button.

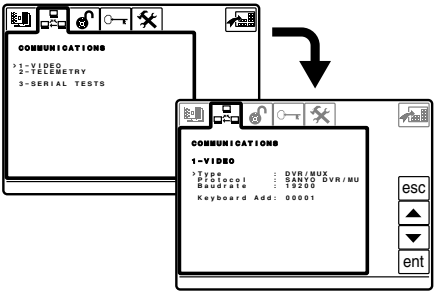
The language selection screen (LANGUAGE) is displayed. Select a language if operating in a language other than English. (P42)



2 Press the button, then press the ent button.

Displays the “1–VIDEO” screen for communications setup (COMMUNICATIONS).

When communications operations are performed only through the video communication terminal (VIDEO) on the rear of this unit, confirm that the screen is as shown in Figure 1.



(Figure 1)

Note: To change the address of this unit (Keyboard Add), see P44.

English

Check Setup:

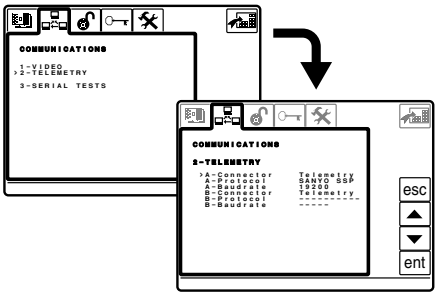
- **Type:**
  To operate a hard disk digital recorder with a multiplexer function, this should display "DVR/MUX".
- **Protocol:**
  When "DVR/MUX" is selected for "Type", "SANYO DVR/MU" is automatically displayed.
- **Baudrate:**
  "19200" is automatically displayed. Match the settings of the connected equipment (DVR, etc.).

3 Press the esc button.

Returns to Communication Setup selection screen.

4 Press the ▼ button, select "2–TELEMETRY", then press the ent button.

The "2–TELEMETRY" screen is displayed. Check that the settings are as shown below.

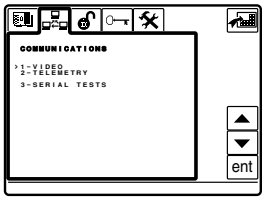


Check Setup:

- **A-Connector:**
  To operate a camera via video equipment, this should display "Telemetry".
- **A-Protocol:**
  Match the settings of the connected camera.
- **A-Baudrate:**
  Match the settings of the connected camera.

5 Press the esc button.

Returns to Communication Setup (COMMUNICATIONS).



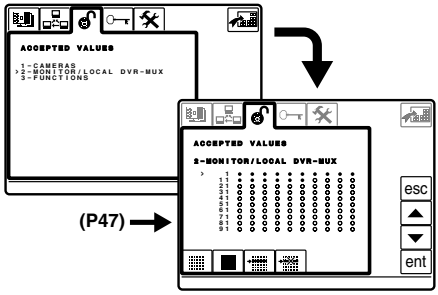
6 Press the 🔓 button.

Displays Control Setup (ACCEPTED VALUES) screen.

For "1–CAMERAS" setup, see P47.

7 Press the ▼ button, select "2–MONITOR/LOCAL DVR-MUX", then press the ent button.

Set the connected DVR-MUX.



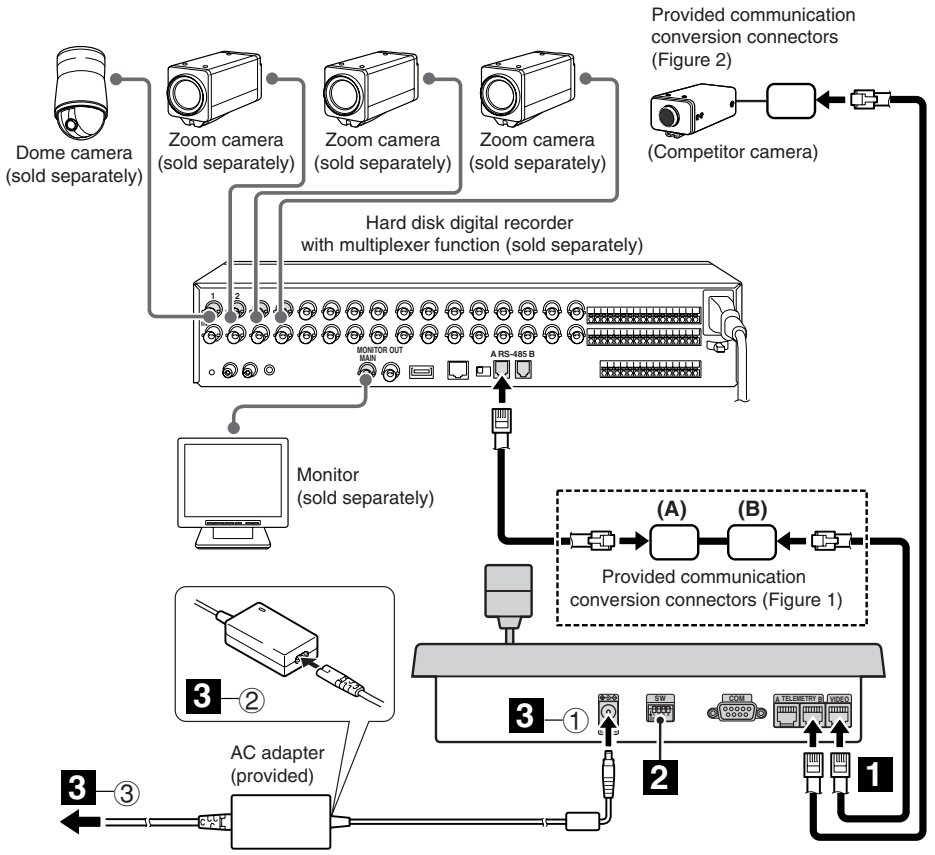
(Figure 2)

8 This completes the setup. Proceed to operating the hard disk digital recorder (P32) or the camera (P38).

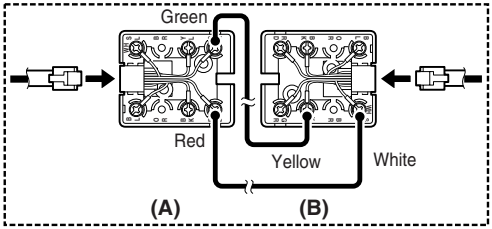
English

Connection and Communication Setup 4

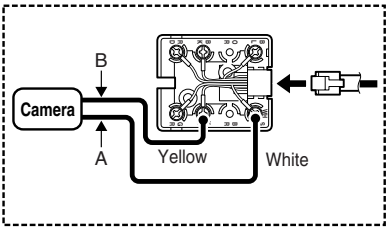
D When connected to video communication terminal (VIDEO) and camera communication terminal (TELEMETRY B)



■ Connecting communication conversion connectors (Figure 1)



■ Connecting communication conversion connectors (Figure 2)



English

■ Making Connections

1 Connect this unit to equipment for communication and operation.

Before connecting, make sure all equipment is turned off.

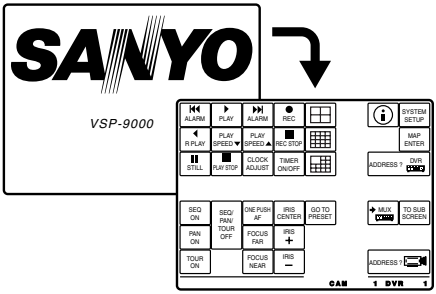
2 Terminate Setup.

SW1: OFF (Fixed)
SW2: OFF (For Camera A)
SW3: ON (For Camera B)
SW4: ON (For Video)

3 Connect this unit to its power source.

① Connect the DC terminal on the AC adapter to the power terminal.
② Plug power plug into AC adapter.
③ Plug power plug into AC power supply.

This unit is turned on, and the main menu appears on the menu display.

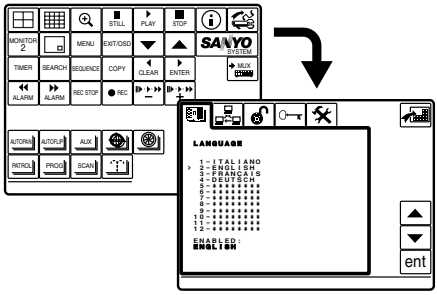


- **This unit has no power switch. Turn power ON or OFF by plugging or unplugging the DC plug from the AC adapter.**
- **When a startup password is set, the password entry screen appears. (P51)**

■ Communication Setup

1 Press the SYSTEM SETUP button, then press the button.

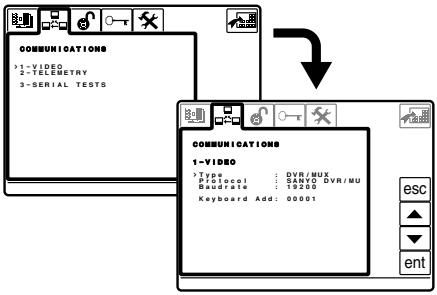
The language selection screen (LANGUAGE) is displayed. Select a language if operating in a language other than English. (P42)



2 Press the button, then press the ent button.

Displays the “1–VIDEO” screen for communications setup (COMMUNICATIONS).

When communications operations are performed only through the video communication terminal (VIDEO) on the rear of this unit, confirm that the screen is as shown in Figure 1.



(Figure 1)

Note: To change the address of this unit (Keyboard Add), see P44.

English

Check Setup:

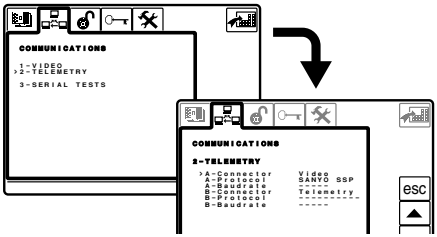
- **Type:**
  To operate a hard disk digital recorder with a multiplexer function, this should display "DVR/MUX".
- **Protocol:**
  When "DVR/MUX" is selected for "Type", "SANYO DVR/MU" is automatically displayed.
- **Baudrate:**
  "19200" is automatically displayed.
  Match the settings of the connected equipment.

3 Press the esc button.

Returns to Communication Setup selection screen.

4 Press the ▼ button, select "2–TELEMETRY", then press the ent button.

The "2–TELEMETRY" screen is displayed. Check that the settings are as shown below.

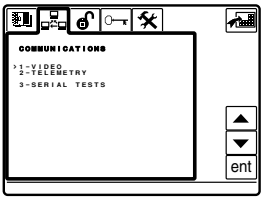


Check Setup:

- **A-Connector:**
  Select "Video".
- **A-Protocol:**
  Select "SANYO SSP".
- **A-Baudrate:**
  Because 1–VIDEO is then set to "Baudrate (19200)", "– – – – –" is displayed by default.
- **B-Connector:**
  Select "Telemetry".
- **B-Protocol:**
  Match the settings of the connected camera.
- **B-Baudrate:**
  Match the settings of the connected camera.

5 Press the esc button.

Returns to Communication Setup (COMMUNICATIONS).



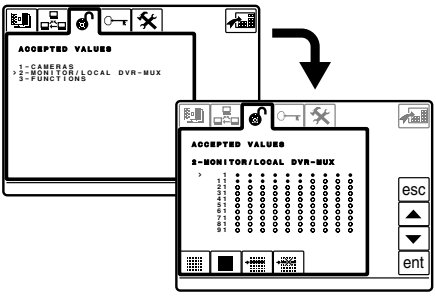
6 Press the button.

Displays Control Setup (ACCEPTED VALUES) screen.

For "1–CAMERAS" setup, see P47.

7 Press the ▼ button, select "2–MONITOR/LOCAL DVR-MUX", then press the ent button.

Set the connected DVR-MUX.



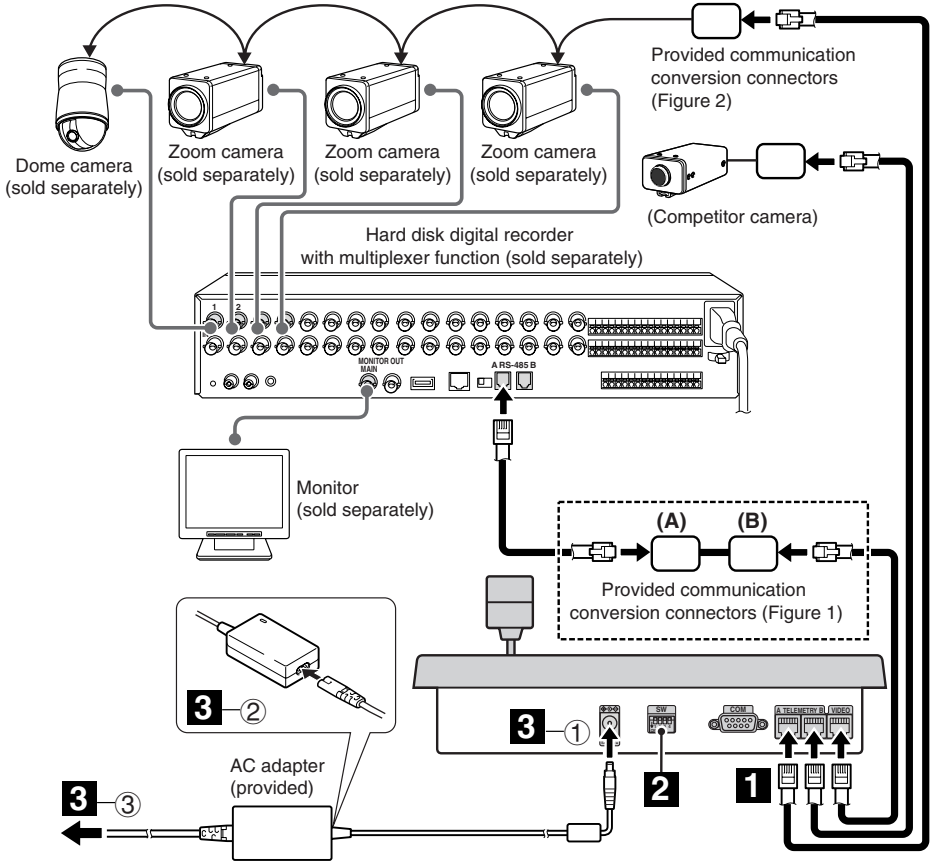
(Figure 2)

8 This completes the setup. Proceed to operating the hard disk digital recorder (P32) or the camera (P38).

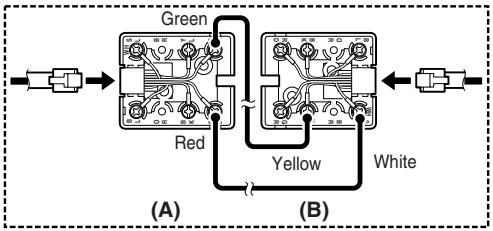
English

Connection and Communication Setup 5

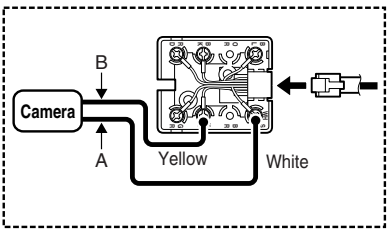
E When connected to video communication terminal (VIDEO) and camera communication terminals (TELEMETRY A/B)



■ Connecting communication conversion connectors (Figure 1)



■ Connecting communication conversion connectors (Figure 2)



English

■ Making Connections

1 Connect this unit to equipment for communication and operation.

Before connecting, make sure all equipment is turned off.

2 Terminate Setup.

SW1: OFF (Fixed)
SW2: ON (For Camera A)
SW3: ON (For Camera B)
SW4: ON (For Video)

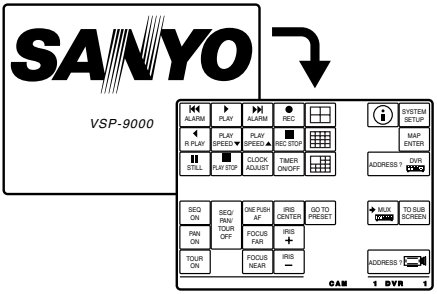
3 Connect this unit to its power source.

① Connect the DC terminal on the AC adapter to the power terminal.

② Plug power plug into AC adapter.

③ Plug power plug into AC power supply.

This unit is turned on, and the main menu appears on the menu display.

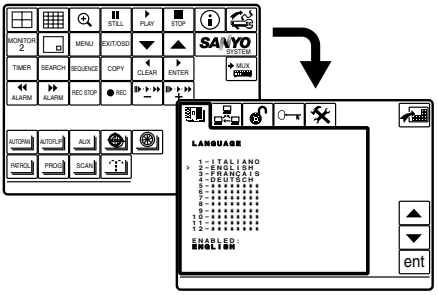


- **This unit has no power switch. Turn power ON or OFF by plugging or unplugging the DC plug from the AC adapter.**
- **When a startup password is set, the password entry screen appears. (P51)**

■ Communication Setup

1 Press the SYSTEM SETUP button, then press the button.

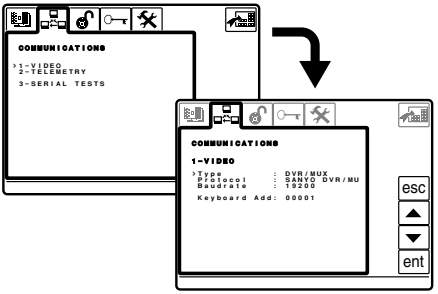
The language selection screen (LANGUAGE) is displayed. Select a language if operating in a language other than English. (P42)



2 Press the button, then press the ent button.

Displays the “1–VIDEO” screen for communications setup (COMMUNICATIONS).

When communications operations are performed only through the video communication terminal (VIDEO) on the rear of this unit, confirm that the screen is as shown in Figure 1.



(Figure 1)

Note: To change the address of this unit (Keyboard Add), see P44.

English

Check Setup:

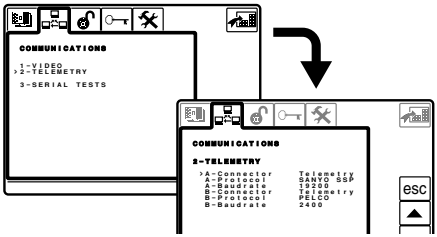
- **Type:**
  To operate a hard disk digital recorder with a multiplexer function, this should display "DVR/MUX".
- **Protocol:**
  When "DVR/MUX" is selected for "Type", "SANYO DVR/MU" is automatically displayed.
- **Baudrate:**
  "19200" is automatically displayed.
  Match the settings of the connected equipment.

3 Press the esc button.

Returns to Communication Setup selection screen.

4 Press the ▼ button, select "2–TELEMETRY", then press the ent button.

The "2–TELEMETRY" screen is displayed. Check that the settings are as shown below.

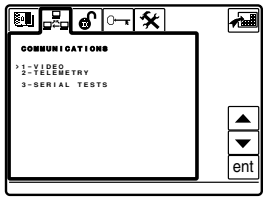


Check Setup:

- **A-Connector:** Select "Telemetry".
- **A-Protocol:**
  Match the settings of the connected camera.
- **A-Baudrate:**
  Match the settings of the connected camera.
- **B-Connector:** Select "Telemetry".
- **B-Protocol:**
  Match the settings of the connected camera.
- **B-Baudrate:**
  Match the settings of the connected camera.

5 Press the esc button.

Returns to Communication Setup (COMMUNICATIONS).



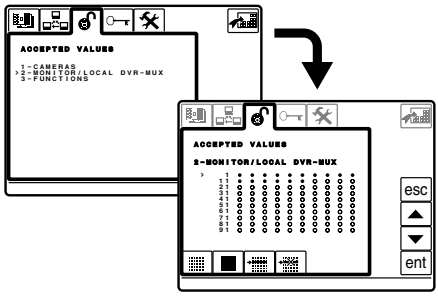
6 Press the button.

Displays Control Setup (ACCEPTED VALUES) screen.

For "1–CAMERAS" setup, see P47.

7 Press the ▼ button, select "2–MONITOR/LOCAL DVR-MUX", then press the ent button.

Set the connected DVR-MUX.



(Figure 2)

8 This completes the setup. Proceed to operating the hard disk digital recorder (P32) or the camera (P38).

English

Communication Lines and Number of Connected Units

This unit can operate multiple hard disk digital recorders with a multiplexer function connected to the rear video terminal (VIDEO), or multiple dome or zoom cameras connected to the camera terminals (TELEMETRY A/B).

Address and terminate settings are required after connecting the equipment. See your operating manuals for proper settings of the connected equipment.

■ Number of Connected Units

- Maximum connections with this unit: 5 units (Address 0 to 4)
- Maximum connections of this unit with video terminal (hard disk digital recorders, multiplexers): 100 units (Address 1 to 100)
- Maximum connections of this unit with camera terminal (dome cameras, zoom cameras): 127 units (Address 1 to 127)
- Maximum number of connections within system: 256 units

Note: Connections between communication conversion connectors can be checked before using a communication line.
See "**Communications Setup**", "**3–SERIAL TESTS**" in System Setup. (P46)

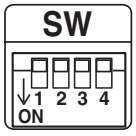
■ Terminate settings

This unit is equipped with camera A/B communication terminals and a video communication terminal. When performing communication operations, connecting multiple models to the same loop from each communication terminal will cause the data to reflect at both ends, affecting other data and preventing proper data transmission to each piece of equipment.

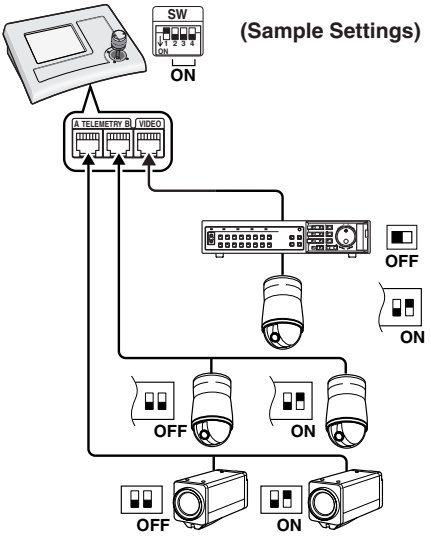
Terminate settings refer to enabling proper communication by turning ON the terminate switch provided on equipment connected at both ends of multiple connected units, and turning OFF the terminate switch on the connected units in between.

Dipswitches (SW) 2 to 4 on the rear panel are the terminate setting switches.

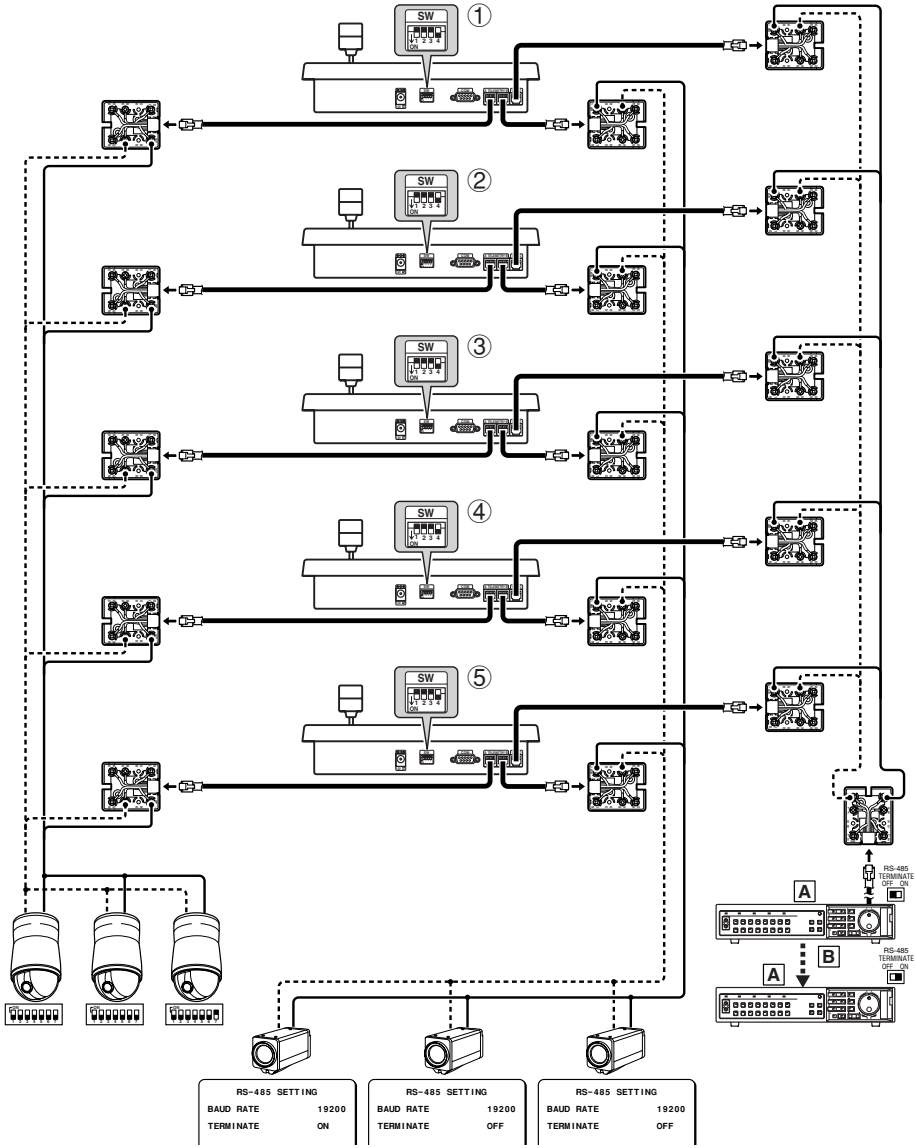
- SW1: For selecting PC software operation or normal operation
- **SW2: For terminate setting on camera communication terminal A**
- **SW3: For terminate setting on camera communication terminal B**
- **SW4: For terminate setting for video communication terminal**



(Sample Settings)

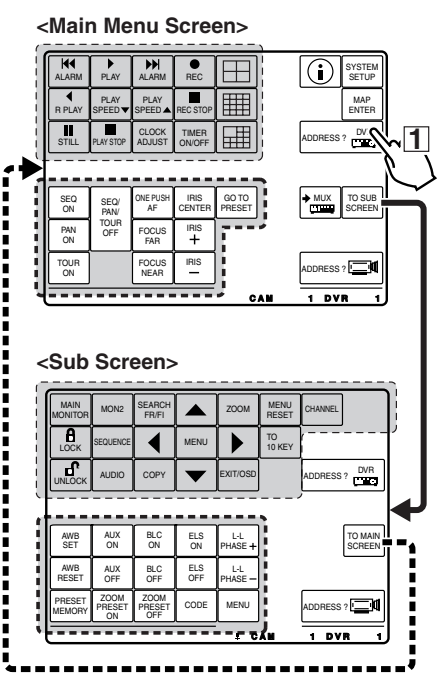


English


SW
①
②
③
④
⑤
RS-485 TERMINATE OFF ON
A
B
RS-485 SETTING
BAUD RATE 19200
TERMINATE ON
RS-485 SETTING
BAUD RATE 19200
TERMINATE OFF
RS-485 SETTING
BAUD RATE 19200
TERMINATE OFF

Hard Disk Digital Recorder (DVR) Operation

When connecting this unit with hard disk digital recorders, zoom cameras, etc.



To previous screen

Digital video recorder operation buttons

Dome camera or zoom camera operation buttons

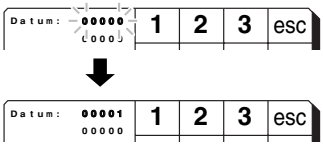
Note: Some operation buttons may not be operable, depending on the connected equipment.

1 Press the ADDRESS ? DVR button.

The address input screen appears, and Datum “00000” will flash.

2 Use the ten-key pad to enter the recorder address (Example: 1).

The Datum changes to “00001”.

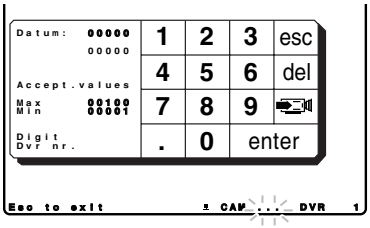


Note: Confirm that the recorder address is “001”.

3 Press the enter button.

The Datum changes to “00000”, and the DVR address in the message display is “1”.

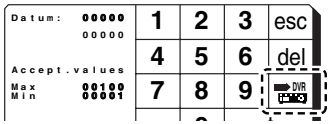
The camera input channel is not yet set, and displays a flashing “. . .”.



English

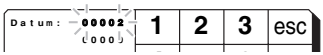
4 **Press .**

changes to .



5 **Use the ten-key pad to enter the camera address (Example: 2).**

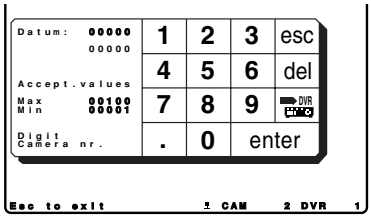
The Datum “00002” will flash.



6 **Press the enter button.**

The Datum changes to “00000”, and the camera input channel in the message display is “2”.

Press the esc button to return to the Main Menu screen.



7 **Switch between the sub screen (TO SUB SCREEN button) and the Main Menu screen (TO MAIN SCREEN button), and operate the recorder or the camera.**

■ Main Menu Screen Operation

ALARM

Alarm button

Press this during playback or during a pause. The previous alarm is played back.

PLAY

Playback button

The normal recording area or alarm recording area is played back.

ALARM

Alarm button

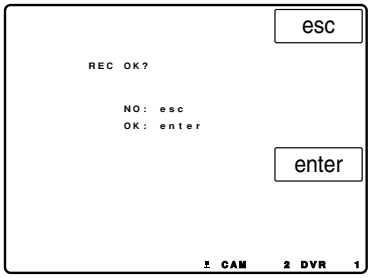
Press this during playback or during a pause. The next alarm is played back.

REC

Recording button

The recording confirmation screen is displayed on the menu display.

Press esc to cancel recording, or press enter to record.



Four-screen display button

The main monitor displays a four-pane screen.

R PLAY

Reverse playback button

PLAY SPEED▼

Playback speed down button

Press this during playback. This begins frame advance reverse still images ( ). Press repeatedly to decrease the frame speed.

PLAY SPEED▲

Playback speed up button

Press this during playback. This begins frame advance forward still images ( ). Press repeatedly to increase the frame speed.

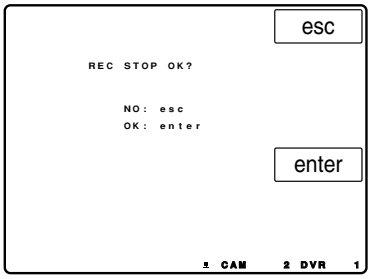
English

REC STOP

Recording stop button

The recording stop screen is displayed on the menu display.

Press esc to continue recording, or press enter to stop recording.



Multiple display button

The main monitor displays a nine-pane or sixteen-pane screen. The display panes differ based on the number of camera input terminals on the hard disk digital recorder.

STILL

Pause button

Press this during playback. A still picture is displayed. Press it again to return to playback.

PLAY STOP

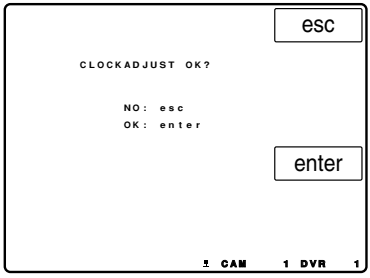
Playback stop button

Press this during playback to stop playback.

CLOCK ADJUST

Clock setting button

Press this to set the minutes and seconds to “00”.



TIMER ON/OFF

Timer record button

Press during recording to enter timer record standby. The timer will record at the set time. Press again to cancel.

Plus display button

While monitoring the main monitor multiple display screen, image from one camera is displayed larger. The display panes differ based on the number of camera input terminals. Press again to cancel.

Sub Screen Operation

MAIN MONITOR

Main monitor button (*)

Press to operate the main monitor.

MON2

Monitor 2 button (*)

Press to operate monitor 2.

SEARCH FR/FI

Search button

Press in any search operation menu, whether during recording or while stopped.

Cursor buttons

Use in place of the jog shuttle when making menu selections. The cursor will move.

ZOOM

Zoom button

Press the zoom button during playback on a single screen, or while monitoring live image.

A zoom frame is displayed around the center of the screen.

Press again to cancel the zoom.

MENU RESET

Menu reset button

This restores the default menu settings.

CHANNEL

Channel button

The camera channel can be selected during a pause.

(*): The Sub-menu screen appears.

English

LOCK

Security lock button

Press to engage a security lock on hard disk digital recorder operation.

SEQUENCE

Camera sequence button

This automatically switches the monitored live image. Press again to cancel.

MENU

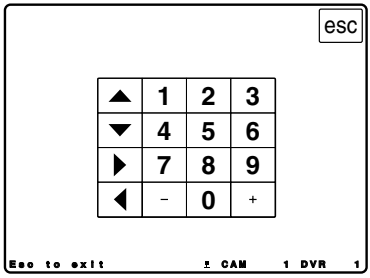
Menu button

Press to display the hard disk digital recorder menu.

TO 10 KEY

Ten-key screen switch button

Press the esc button to return to the Menu screen.



UNLOCK

Security cancel button

Press to cancel a security lock on a hard disk digital recorder. When an operation button is pressed, "**SECURITY LOCKED !**" is displayed on the monitor, and a password is requested. Enter the password.

AUDIO

Audio button

This switches the audio output channel.

COPY

Copy button

Image recorded in the normal recording area and the alarm recording area can be copied to a backup area or onto a CompactFlash card.

Play back the recording area to copy, and pause it.

To return to the Main Menu, press the COPY button.

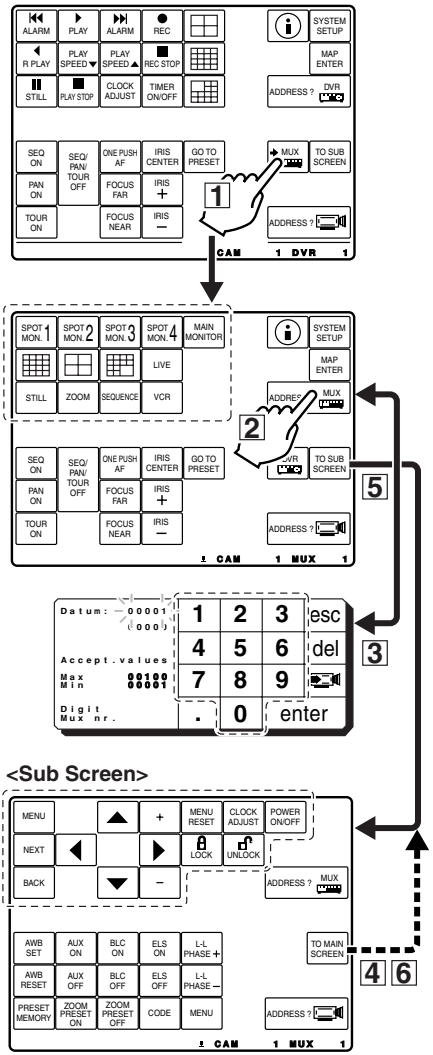
EXIT/OSD

Screen display button

- Press to exit the Main Menu or the Sub Menu.
- When pressed during recording, playback, or stop, the monitor display position cycles through top display, bottom display, and no display.

English

Multiplexer (MUX) operation



Note: Some operation buttons may not be operable, depending on the connected equipment.

1 Press the [MUX] button.

The [ADDRESS ? DVR] button changes to [ADDRESS ? MUX].

2 Press the [ADDRESS ? MUX] button.

The address input screen appears, and Datum “00000” will flash.

3 Use the ten-key pad to enter the multiplexer address (Example: 1), then press the [enter] button.

The Datum changes to “00000”, and the MUX address in the message display is “1”.

Press the [esc] button to return to the Main Menu screen.

The address input screen disappears, and the menu screen appears.

4 Basic multiplexer operation Press a button inside the [ ] on the Menu screen.

This enables basic operation of the multiplexer.

5 Press the [TO SUB SCREEN] button for detailed multiplexer operation.

The Sub Menu is displayed. Press a button inside the [ ].

6 Press the [TO MAIN SCREEN] button.

Returns to the Menu screen.

English

■ Main Menu Screen Operation

Spot monitor buttons (*)
Press to select the image to output to the spot monitor.

Main monitor button (*)
Press to operate the main monitor.

Multiple display button
The main monitor displays a nine-pane or sixteen-pane screen. The display panes differ based on the number of camera input terminals. Press repeatedly to switch between nine and sixteen panes.

Four-screen display button
The main monitor displays a four-pane screen. Press repeatedly to switch screens four panes at a time.

Plus display button
While monitoring the main monitor multiple display screen, image from one camera is displayed larger. The display panes differ based on the number of camera input terminals. Press again to cancel.

Live image button
Press to view camera (live) image.

Still image button
Press this while monitoring a single screen. A still image is displayed. Press again to cancel.

Electronic zoom button
Press this while monitoring a single screen. A 2x zoom screen appears. Press again to cancel.

Camera sequence button
This automatically switches the monitored live image. Press again to cancel.

Video playback button
Press to enter video playback mode. Video playback is displayed on the monitor.

■ Sub Screen Operation

Menu selection button
The multiplexer menu is displayed on the monitor.

Next setting button
Press after making a menu setting in the Main Menu. The Sub-Menu screen appears.

Back setting button
Press in the Sub Menu screen to return to the Menu screen.

Cursor buttons
Press to make menu selections. The cursor will move.

+ – buttons
Press to select values or items.

Menu reset button
Press to restore default menu settings.

Clock setting button
Press this to set the minutes and seconds to “00”.

Power switch
This turns power on and off.

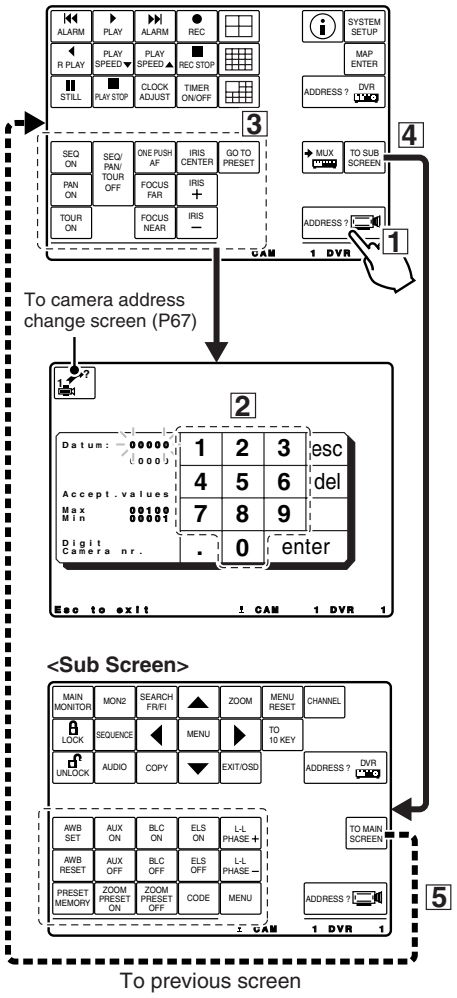
Security lock button
Press to cancel a security lock for multiplexer operation.

Security cancel button
Press to cancel a security lock for multiplexer operation.

(*): The Sub-menu screen appears.

English

Dome Camera/Zoom Camera Operation



Note: Some operation buttons may not be operable, depending on the connected equipment.

1 Press the [ADDRESS ?] button.

The address input screen appears, and Datum “00000” will flash.

2 Use the ten-key pad to enter the camera input channel (Example: 1), then press the [enter] button.

The Datum changes to “00000”, and the camera input channel in the message display is “1”.

Press the [esc] button to return to the Main Menu screen.

The address input screen disappears, and the menu screen appears.

3 Basic camera operation Press a button inside the [ ] on the Menu screen.

This enables basic camera operation.

4 Press the detailed camera operation button [TO SUB SCREEN].

The Sub Menu is displayed. Press a button inside the [ ].

5 Press the [TO MAIN SCREEN] button.

Returns to the Menu screen.

English

■ Main Menu Screen Operation

SEQ ON

Performs a sequential pan.

PAN ON

Performs an automatic pan.

TOUR ON

Engages tour mode.

SEQ/ PAN/ TOUR OFF

Cancels sequential pan/automatic pan/tour mode.

ONE PUSH AF

Performs one-push auto-focus.

FOCUS FAR

Uses manual focus to adjust focus on a far point.

FOCUS NEAR

Uses manual focus to adjust focus on a near point.

IRIS CENTER

Restores iris level to default value.

IRIS +

Opens iris level farther.

IRIS −

Closes iris level farther.

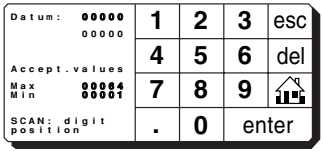
GO TO PRESET

Moves camera to a memorized preset position.

The ten-key pad screen is displayed on the menu display.

Select the preset number, and press the enter button.

To return to the previous screen, press the esc button.



■ Sub Screen Operation

AWB SET

Press for an instant automatic white balance.

AWB RESET

Cancels white balance lock mode.

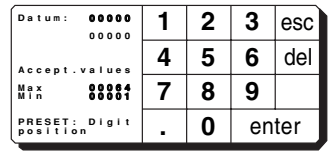
PRESET MEMORY

Memorizes the current position, zoom, and focus under the specified preset position number.

The ten-key pad screen is displayed on the menu display.

Select the preset number, and press the enter button.

To return to the previous screen, press the esc button.



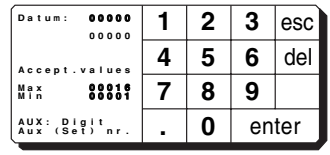
AUX ON

Turns ON other functions.

The ten-key pad screen is displayed on the menu display.

Select the function number, and press the enter button.

To return to the previous screen, press the esc button.



English

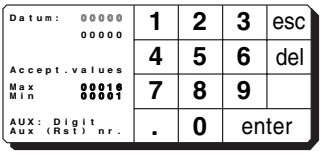
AUX OFF

Turns OFF other functions.

The ten-key pad screen is displayed on the menu display.

Select the function number, and press the enter button.

To return to the previous screen, press the esc button.



ZOOM PRESET ON

Sets zoom to max telefocus.

ZOOM PRESET OFF

Sets zoom to max wide.

BLC ON

Turns ON backlight compensation.

BLC OFF

Turns OFF backlight compensation.

ELS ON

Turns ON electronic shutter.

ELS OFF

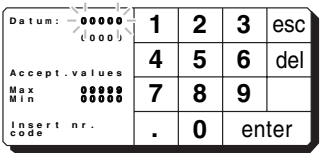
Turns OFF electronic shutter.

CODE

Sets special codes.

The ten-key pad screen is displayed on the menu display.

Enter the special code. See special code chart. (P89)



L-L PHASE +

Adjusts phase synchronization toward +.

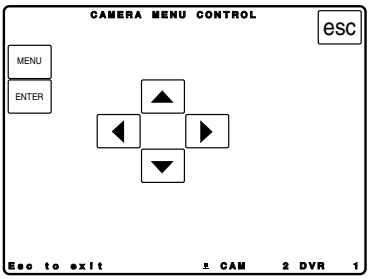
L-L PHASE –

Adjusts phase synchronization toward –.

MENU

Starts menu setup.

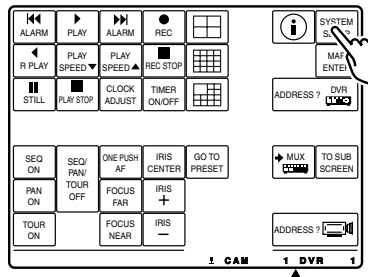
The menu setup buttons are displayed on the menu display. Perform setup operations.



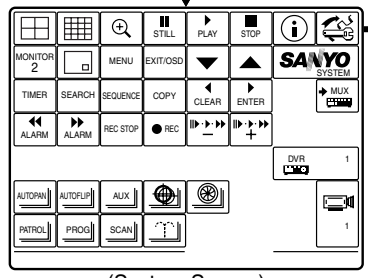
Note: Using the ▲ or ▼ button during dome camera (VCC-9000) operation will cancel cursor control. Use the jog dial for cursor operation (▲ / ▼) on this menu screen.

English

System Setup Overview



(Initial Screen)

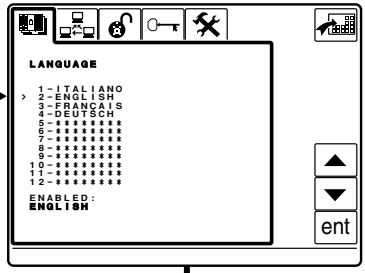


(System Screen)

Press this button from each menu to return to System screen.

■ Select Language

Select the language displayed on the menu display.



■ Communication Setup

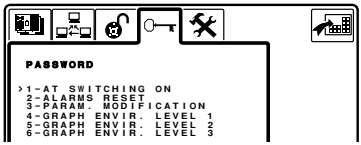
Sets up serial communication with the equipment connected to the rear panel terminal.

■ Control Setup

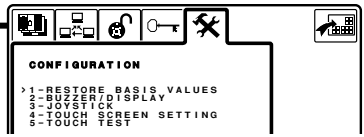
Sets up equipment and functions effective for this unit.

■ Password Setup

Sets up passwords.



■ Setup

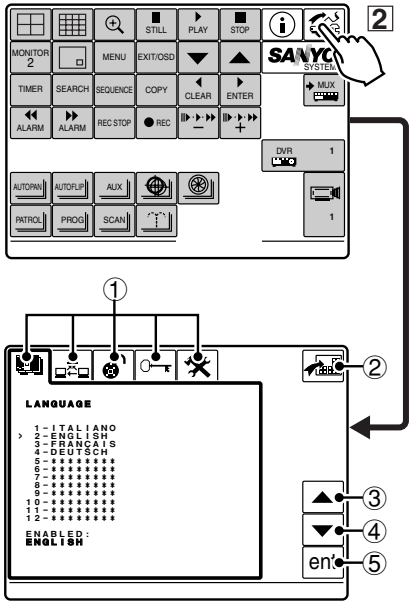


English

Language Selection

Passwords and menu display settings are available for operating this unit. As an example, changing the language (LANGUAGE) is explained here. Use the same method for other settings on the System screen.

<Sub Screen>



: These buttons cannot be operated on this unit.

① System Menu selection buttons
Pressing any button will display another menu screen.
② Press to return to the previous menu.
③ Press to move the cursor upward.
④ Press to move the cursor downward.
⑤ Press to confirm an item.
The next menu will appear.

1 Press the SYSTEM SETUP button.

The Main Menu appears.

2 Press the button.

The System screen language selection screen is displayed.

3 Press the ▲ button or ▼ button, select a language, then press the ent button.

The language on the system screen changes to the selected language.

4 Press the button.

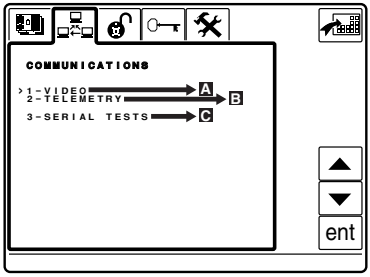
Returns to the Sub screen.

English

Communication Setup

This sets up communication with equipment connected to the video communication terminal (VIDEO) or camera communication terminals (TELEMETRY A/B). Serial communication testing between connected equipment is also available.

■ Select a communication item (COMMUNICATIONS)

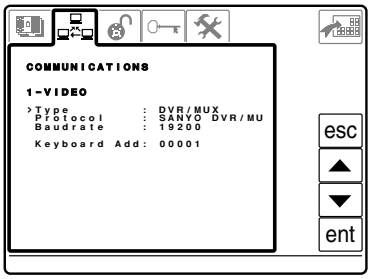


Press the ▲ button or ▼ button to select a setup item, then press the ent button.

Displays the selected screen. See the selection item (A B C).

Selection Items

A 1–VIDEO (Video Equipment Communication Setup)



Upon purchasing, the communication settings are set for connecting to our video equipment (DVR/MUX), and the settings do not need to be changed.

For communication setup for competitor video equipment, see the “Communications Chart”. (P86)

- **Type:**
  This displays the equipment (DVR/MUX) connected to the video communication terminal. Changing the type will require changing the Protocol and Baudrate as well.
- **Protocol:**
  This shows the communication protocol (SANYO DVR/MU) used on this unit.
- **Baudrate:**
  Select the data transmissions speed (19200) for the connected video equipment.
- **Keyboard Add:**
  This is the unit address.

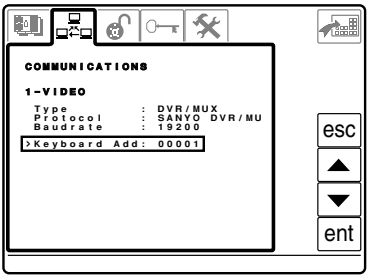
English

■ Unit Address Setup

When purchased, the unit address is set to "1". Change the address when using multiple controllers.

Allocate addresses from 0 to 4.

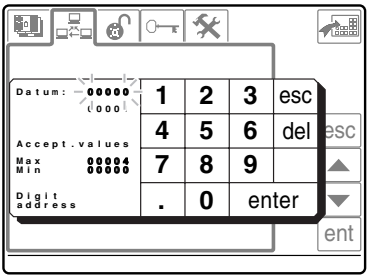
* The addresses can also be checked using the [ⓘ] button.



Changing the Unit Address

1 Press the [▼] button to select "Keyboard Add", then press the [enter] button.

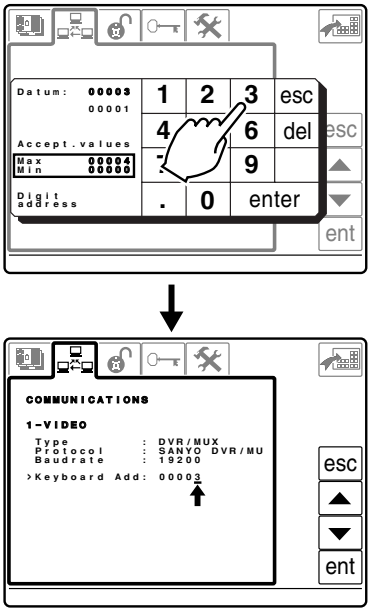
The address setup screen appears, and Datum "00000" will flash.



2 Press a number button (example: 3), then press the [enter] button.

The communication setup screen appears, and the address displays as 3.

Entry range: 0, 1, 2, 3, 4



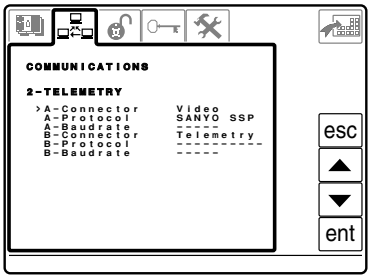
Note: When 5 or a higher number is entered, a warning sounds and "Digit address" displays "Datum not enabled". Enter a number within the input range.

[esc] : Returns to Communication Setup screen.

[del] : Restores the input number to "0".

English

B 2–TELEMETRY (Dome camera or zoom camera communication setup)



Upon purchasing, the communication settings are set to connect our video equipment to cameras using coaxial cables. Communication uses the video communication terminal (VIDEO). For details, see “A-Connector”.

■ Communication setup when using our video equipment and cameras

- **A-Connector:**

  Video: Connecting cameras via video equipment.

  Telemetry: Operating a camera by connecting this unit to camera using modular cable.

- **A-Protocol:**

  The communication protocol used on this unit is **SANYO SSP**. Every time the communication protocol is changed, “A-Baudrate” is restored to the default value.

- **A-Baudrate:**

  Select the data transmissions speed for the camera connected to camera communication terminal A.

Note: When “Video” is selected for “A-Connector”, the Video data transmission speed is fixed, and “A-Baudrate” cannot be set.

■ Communication setup when using competitor cameras

- **B-Connector: Telemetry**

  Operating a camera by connecting this unit to camera using modular cable.

- **B-Protocol:**

  This is the communication protocol used on this unit.

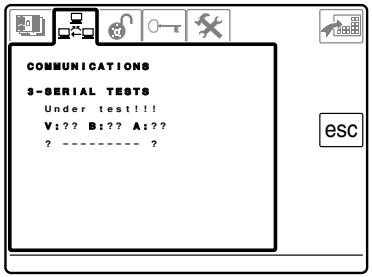
  Every time the communication protocol is changed, “B-Baudrate” is restored to the default value.

- **B-Baudrate:**

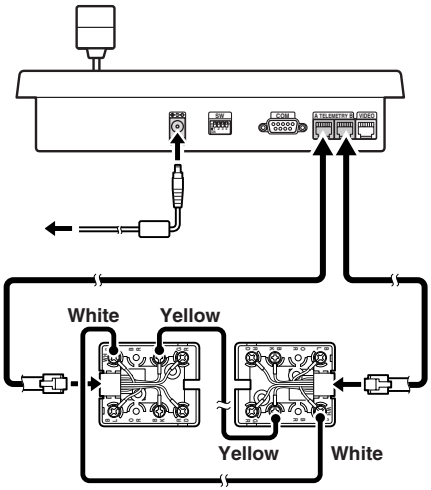
  Select the data transmissions speed for the camera connected to camera communication terminal B.

English

C 3–SERIAL TESTS (Communication output test for video communication terminal and camera communication terminal)



Remove all lines connected to this unit, and use two modular cables and two communication converter connectors to connect as shown below.



1 Connect test cables to each camera communication terminal (TELEMETRY A and B) on the rear panel.

2 Check the results displayed on the menu display.

B<------>A:

Normal

B<------?A:

Line B has normal reception, but Line A has a reception problem.

B?------>A:

Line A has normal reception, but Line B has a reception problem.

When a problem is indicated, repeat the test with TELEMETRY A connected to VIDEO, and with TELEMETRY B connected to VIDEO. The test results are displayed as follows.

B?------?A:

The line is not functioning. No transmission or reception.

B?------>A:

Transmission is possible, but no reception.

B<------?A:

Reception is possible, but no transmission.

B<------?A:

The line has normal transmission and reception.

• When connecting V and A, or V and B, this is displayed as follows.

V<------>A
V<------>B

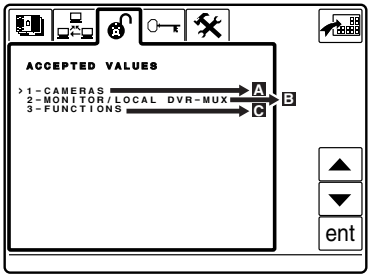
3 When the test is complete, press the esc button to return to the Menu screen.

English

Control Setup

Sets up equipment and functions effective for this unit.

■ Select a Control Item (ACCEPTED VALUES)

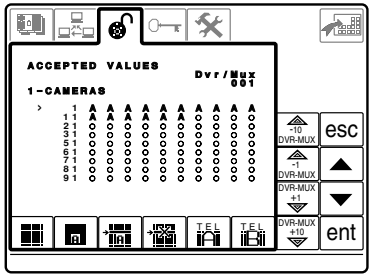


Press the ▲ button or ▼ button to select a setup item, then press the ent button.

Displays the selected screen. See the selection item (**A** **B** **C**).

Selection Items

A 1–CAMERAS (Camera Communication Setup)



When purchased, the camera communication terminal (TELEMETRY) is set to "**A**" output.

Set the camera connection terminal (A connector, B connector, or not connected) for the camera connected to each channel on the hard disk digital recorder or the multiplexer (Dvr/Mux).

Clear button

Disconnects all cameras.

A/B line switch button

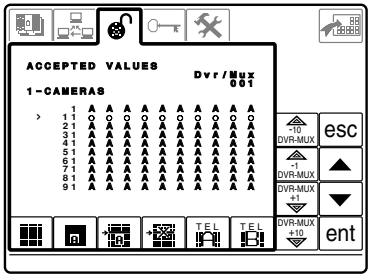
Press the TEL A or TEL B button to change the button name. Pressing this button switches the connection terminal for all cameras.

Single row switch button

Press the TEL A or TEL B button to change the button name. Pressing this button switches the connection terminal for each row.

English

Single row clear button
Clears a row at a time.



Individual camera setup button
The ten cameras on the cursor line can be set (A/B/○) individually.

A line selection button
When pressed, the A/B line switch button switches to the button.

B line selection button
When pressed, the A/B line switch button switches to the button.

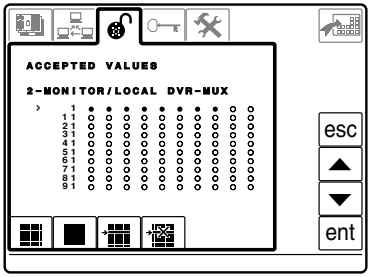
Address –10 button
The address of connected video equipment (Dvr/Mux) is shifted downward in increments of 10.

Address –1 button
The address of connected video equipment (Dvr/Mux) is shifted downward in increments of 1.

Address +1 button
The address of connected video equipment (Dvr/Mux) is shifted upward in increments of 1.

Address +10 button
The address of connected video equipment (Dvr/Mux) is shifted upward in increments of 10.

B 2–MONITOR/LOCAL DVR-MUX (Valid/Invalid setup for hard disk digital recorder with multiplexer function)



Set the addresses of connected video equipment.

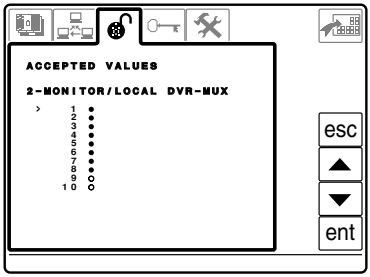
Clear button
Invalidates all video equipment.

All valid button
Validates all video equipment.

Single row switch button
Sets a row to be valid.

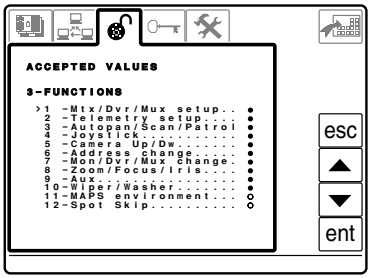
Single row invalidate button
Sets a row to be invalid.

Individual setup button
The ten video equipment units on the cursor line can be set (●/○) individually.



English

C 3–FUNCTIONS



Other functions can be started or stopped.

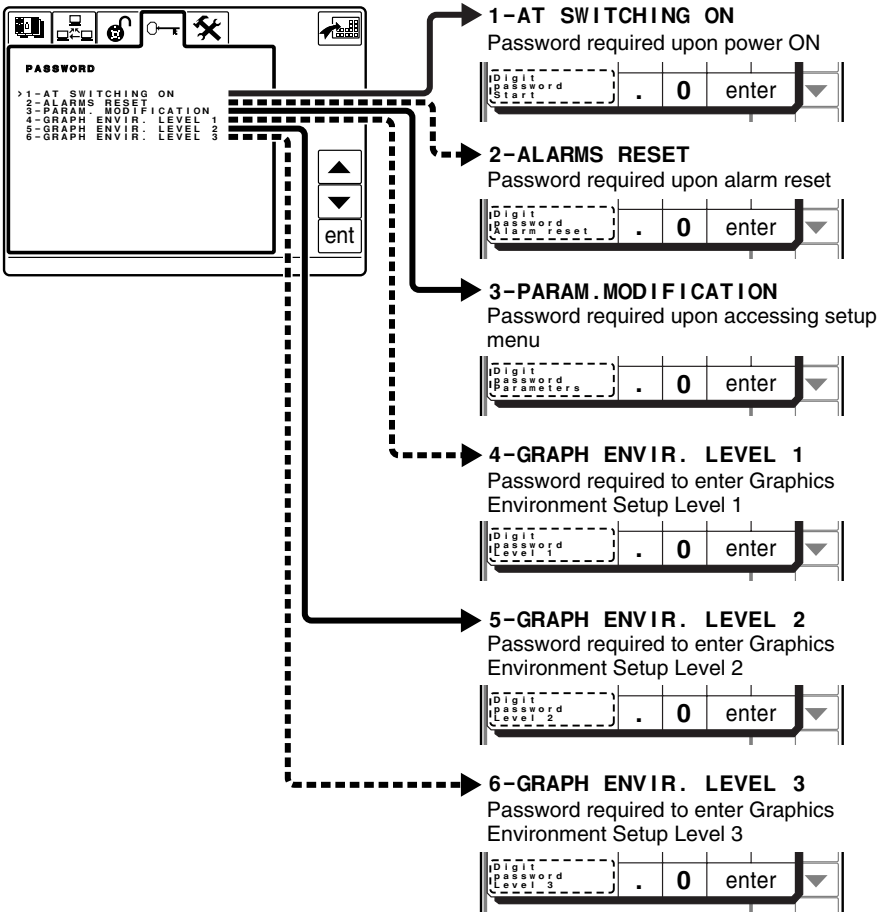
- **Mtx/Dvr/Mux setup**
  Enables display of the video equipment menu.
- **Telemetry setup**
  Enables display of the camera menu.
- **Autopan/Scan/Patrol**
  Enables automatic operation of dome cameras.
- **Joystick**
  Enables joystick operation.
- **Camera Up/Dw**
  Moves camera input channel up and down. (Function only available when matrix multiplexer is connected.)
- **Address change**
  Enables changing the camera address for a hard disk digital recorder channel. When ON, a camera icon is displayed in the upper left of the camera address screen.

- **Mon/Dvr/Mux change**
  Enables changing DVR-MUX address.
- **Zoom/Focus/Iris**
  Enables changing zoom, focus, and iris values for connected cameras.
- **Aux**
  Enables Aux operation of connected cameras.
- **Wiper/Washer**
  Enables wipers and washers, special functions of connected cameras.
- **MAPS environment**
  Displays a user-created map when power is turned ON.
- **Spot Skip**
  When the “MON2” video output for the hard disk digital recorder is set to camera sequence mode, images from the camera being operated are not output from the “MON2” video output terminal.

English

Password Setup (PASSWORD)

Passwords can be set for operations upon unit power ON, setup menu access, etc.



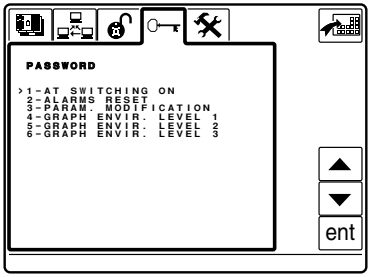
- **Write down each password to remember them. Also, periodic password changes are recommended for safety.**
- **When purchased, the password is set to "00000". When no password is required, set it as "00000".**
- **When the unit is initialized, all passwords become "00000".**
- **When a password is set, an entry screen will appear, requesting your password (example: upon power ON). Enter the password that is set.**
- **When the wrong password is entered, "Password not enabled" is displayed. Enter the correct password.**

English

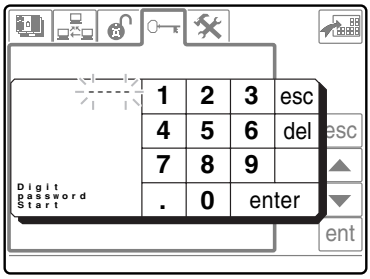
The password setup procedure is the same for each item. Here, entering the password upon unit power ON is explained.

■ AT SWITCHING ON (Power ON password)

1 Press the ▲ button or ▼ button to select "AT SWITCHING ON", then press the ent button.

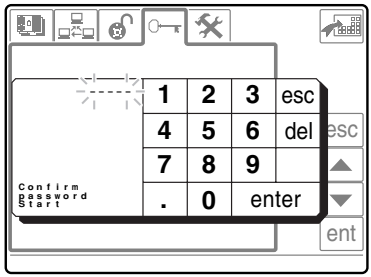


The password entry screen appears, and "-----" will flash.



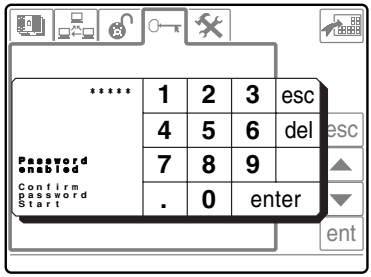
2 Press number buttons to enter the password, (example: 12345), then press the enter button.

"Digit" changes to "Confirm", and "*****" changes to "-----" (flashing).



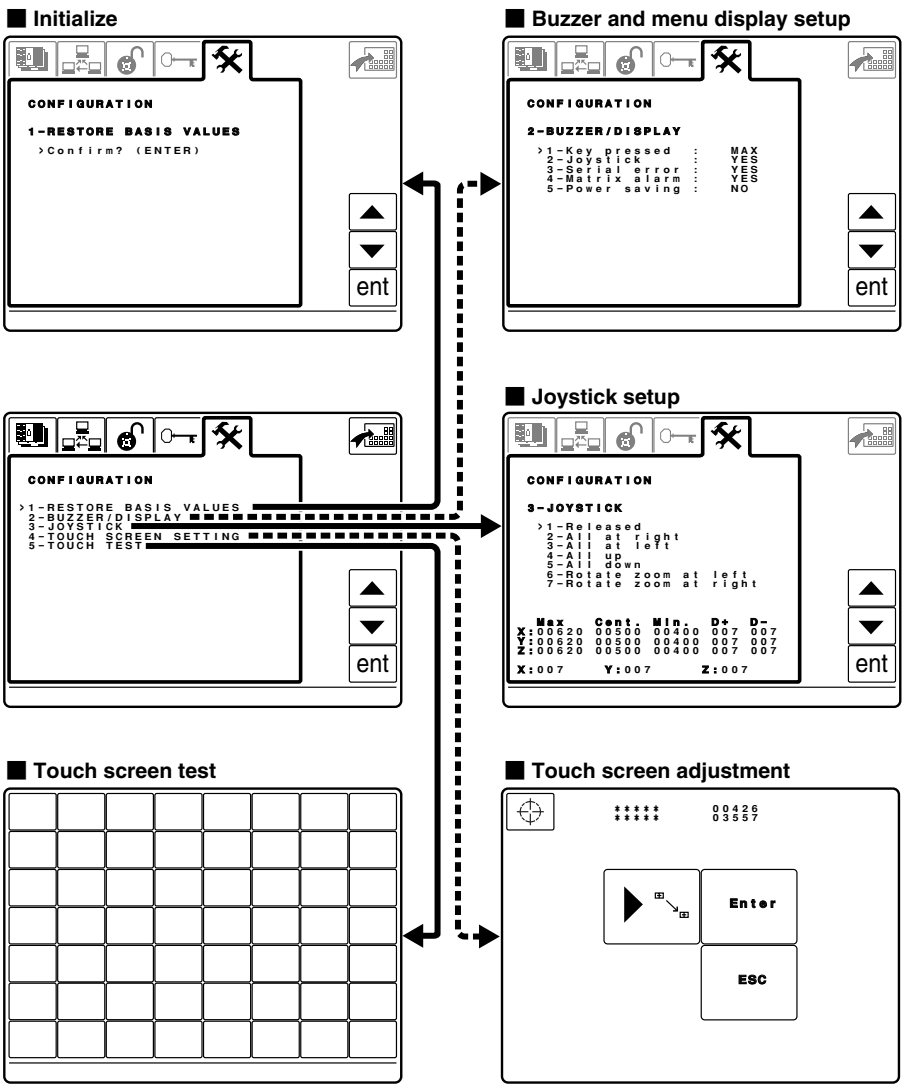
3 Press number buttons to enter the password again for confirmation (12345), then press the enter button.

When "Password enabled" is displayed, the process is complete. The "PASSWORD" screen is displayed again.



English

Setup (CONFIGURATION)



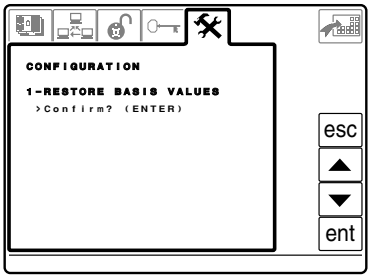
English

■ Initialize (RESTORE BASIS VALUES)

When this is set, the settings of each menu screen revert to the default settings.

1 Press the ▲ button or ▼ button to select "RESTORE BASIS VALUES", then press the ent button.

The "1–RESTORE BASIS VALUES" screen is displayed.



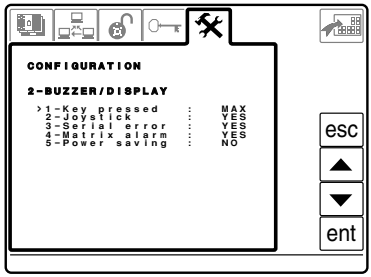
2 Press the ent button.

After ">>...Restore <<" is displayed, ">>Restore performed<<" flashes and the unit is initialized. After initialization is complete, perform menu setup again.

■ Buzzer and menu display setup (BUZZER/DISPLAY)

1 Press the ▲ button or ▼ button to select "BUZZER/DISPLAY", then press the ent button.

The "2–BUZZER/DISPLAY" screen is displayed.



2 Press the ▲ button or ▼ button to select a setup item, then press the ent button.

The selected setting value will flash.

Press the ▲ button or ▼ button to switch the selected item.

Setup items:

- **1–Key pressed: Button operation**
  This setting sounds a buzzer when a button on the screen is pressed.
  Selections: **MAX** (loud), MIN (soft)
- **2–Joystick: Joystick Operation**
  This setting sounds a buzzer when the joystick is moved.
  Selections: **YES**, NO
- **3–Serial error: Serial error detection**
  This setting sounds a buzzer upon a serial communication error.
  Selections: **YES**, NO

English

- **4–Matrix alarm: Matrix alarm detection**

  This setting sounds a buzzer when an alarm is detected.

  Selections: **YES**, NO

- **5–Power saving: Power save function**

  When no buttons are operated for approximately one minute, the screen brightness is automatically switched (dimmed).

  When another button operation is performed, the brightness returns to normal.

  Selections: YES, **NO**

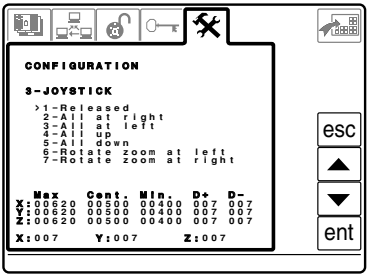
3 Press the ent button.

The selection item stops flashing, and the setup is complete.

■ Joystick Setup (JOYSTICK)

1 Press the ▲ button or ▼ button to select “JOYSTICK”, then press the ent button.

The “3–JOYSTICK” screen is displayed.



2 Press the ▲ button or ▼ button to switch the joystick setting position.

Setting positions:
Set in sequence, from number 1.
Each joystick position will be placed in memory.

- **1–Released (Setting center position)**

  Press the ent button without touching the joystick.

- **2–All at right (Setting far right position)**

  Press the ent button with the joystick tipped to the far right.

- **3–All at left (Setting far left position)**

  Press the ent button with the joystick tipped to the far left.

- **4–All up (Setting topmost position)**

  Press the ent button with the joystick tipped to the topmost position.

- **5–All down (Setting bottommost position)**

  Press the ent button with the joystick tipped to the bottommost position.

- **6–Rotate zoom at left (Setting left zoom position)**

  Press the ent button with the joystick rotated to the far left.

- **7–Rotate zoom at right (Setting right zoom position)**

  Press the ent button with the joystick rotated to the far right.

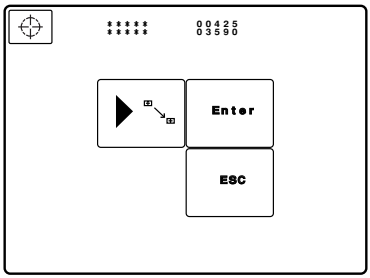
When the wrong position was set by mistake, move the cursor to the mistaken setting and set it again.

English

■ Touch screen adjustment (TOUCH SCREEN SETTING)

1 Press the ▲ button or ▼ button to select "TOUCH SCREEN SETTING", then press the enter button.

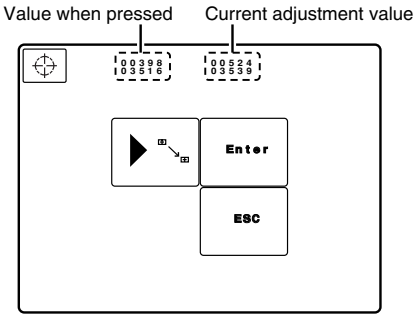
The adjustment screen appears.



2 Press the center of the ⊕ button at the upper left to display the pressed coordinates.

The "*****" changes to coordinates (numerical value).

The coordinates are fixed.

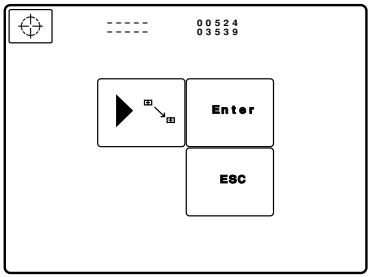


Setting value guideline:

- Top line coordinate range: 300 – 600
- Bottom line coordinate range: 3400 – 3600

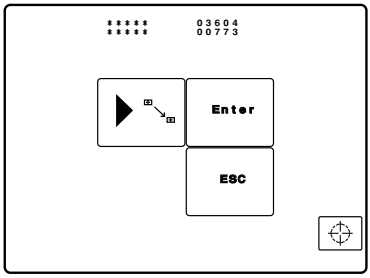
3 Press the enter button.

The coordinates at the upper left are placed in memory, and change to "= = = = =".



4 Press the ↘ button.

The ⊕ button at the upper left moves to the lower right.



5 Press the center of the ⊕ button to display the pressed coordinates.

The "*****" changes to coordinates (numerical value).

The coordinates are fixed.

Setting value guideline:

- Top line coordinate range: 3400 – 3600
- Bottom line coordinate range: 500 – 1000

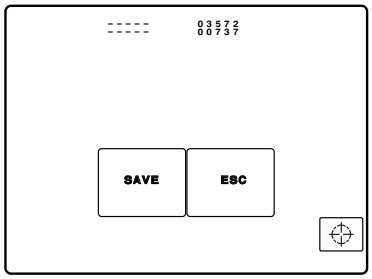
English

6 Press the enter button.

The coordinates at the lower right are placed in memory, and change to "= = = = =".

7 Press the SAVE button.

The coordinates at the upper left and lower right are in memory.



When the coordinates are memorized at dramatically offset positions, this unit will not function. Proceed to the settings in "Touch Screen Initialization".

■ Touch Screen Initialization and Reset

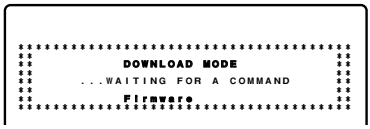
Initialize the set coordinates, and set the coordinates again.

1 Remove wiring and power cables for all equipment connected to this unit.

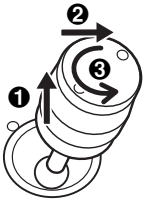
2 Turn dipswitch (SW1) ON.

3 Connect the power cable for this unit.

The "DOWNLOAD MODE" screen is displayed.



4 Operate the joystick as shown in the figure.

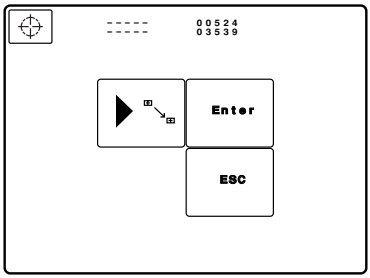


A "...reset touch" message is displayed, and the touch screen is initialized.

English

5 After initializing, operate the joystick as shown in the drawing to perform touch screen adjustment.

The touch screen adjustment screen appears. Perform settings using the procedure on P55.

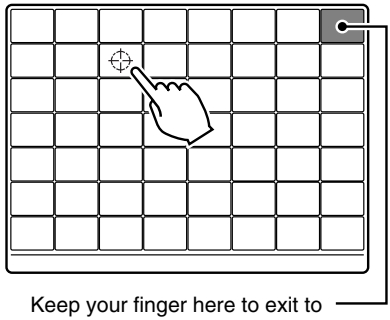


After setup is complete, the “DOWNLOAD MODE” screen is displayed. Turn the dipswitch (SW1) OFF.

■ Touch screen test (TOUCH TEST)

1 Press the ▲ button or ▼ button to select “TOUCH TEST”, then press the ent button.

The testing screen appears.



Keep your finger here to exit to the menu.

2 Press the boxes on the test screen.

⊕ is displayed in the pressed boxes. Press all the boxes to check them.

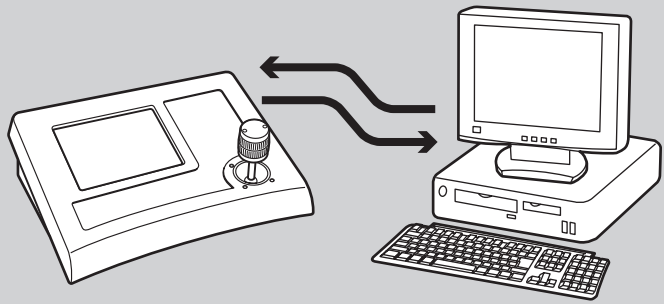
3 Hold down the upper right box to return to the “CONFIGURATION” screen.

English

Software

CONTENTS

- Software Configuration 59
- Connection and Software Installation..... 60
- System Setup (Setup)..... 61
- Language Setup (Language)..... 68
- Graphics Environment Setup (Maps)..... 71



Software Configuration

Use the software on the provided CD-ROM to perform various settings for this unit on your PC.

System Setup (Setup) P61

System setup for this unit are performed on the PC. The setting contents can be saved on the PC, making it efficient to manage differing settings, set one setting on multiple system controllers, or apply the same settings to all units.

Language Setup (Language) P68

This allows creating new display languages for the unit, or changing individual words as desired.

Graphics Environment Setup (Maps) P71

By creating the screen graphics environment as desired, including the opening screen and the operation screen button placement, the operation screen can be simplified or operation can be restricted, depending on the usage environment.

■ Operating Environment

- **PC equipped with a serial port**
- **OS: Windows 9x/2000/XP**

When the software font is not displayed in the correct location, or the icon size is too big or too small, check that the PC (Windows) is using the following settings.

- **Display colors: 256 or more**
- **Font size: Normal 100%**

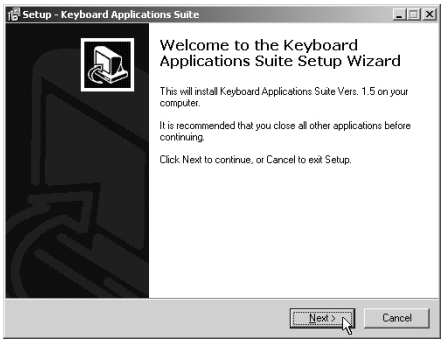
English

Connection and Software Installation

■ Install the Software

1 Insert the provided CD-ROM in the CD-ROM drive on the PC, open it, and click SETUP.EXE.

The next screen is displayed.


Setup - Keyboard Applications Suite
Welcome to the Keyboard Applications Suite Setup Wizard
This will install Keyboard Applications Suite Vers. 1.5 on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

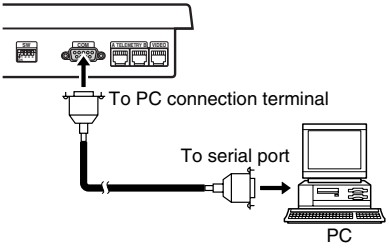
2 Follow the instructions on the screen to install the software.

Three pieces of software are installed: Keyboard Setup, Keyboard Language, and Keyboard Maps.

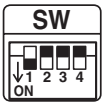
■ Making Connections

3 Connect the PC connection terminal (COM) on the rear panel of the unit to the PC serial port, using the computer connection cable (provided).

Before connecting, make sure all equipment is turned off, and disconnect camera communication and video communication cables.



4 Turn dipswitch (SW1) ON.



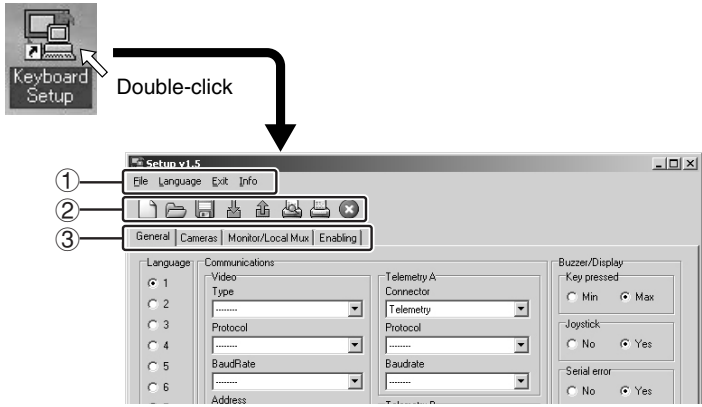
After the PC settings are complete, always return SW1 to its OFF position.

5 Connect the power source to the unit, and turn ON the PC.

"DOWNLOAD MODE" appears on the unit menu display.

English

System Setup (Setup)



① Menu

[File]

New: Create new system settings.

Open: Open existing settings.

Save: Save settings.

Save as: Save settings by another name.

Receive from keyboard:

Download unit settings to this software.

Send to keyboard:

Upload software settings to the unit.

COM Port:

Select the PC port number (1 to 9).

[Language]

Select the menu display language for this software.

[Exit]

Exit the software.

[Info]

Display the software version.

② Toolbar

Click these icons as a shortcut to performing each operation.

: Create new system settings.

: Open existing settings.

: Save settings.

: Download unit settings to this software.

: Upload software settings to the unit.

: Display a print preview of the settings list.

: Print a settings list.

: Exit the software.

③ Tabs

Click the tabs to switch between four operation screens.

[General] (P62)

These allow language selection, communication setup, buzzer setup, and password setup.

[Cameras] (P64)

Set the camera connection terminal (A connector, B connector, or not connected) for the camera connected to each channel on the hard disk digital recorder or the multiplexer (Dvr/Mux).

[Monitor/Local Mux] (P66)

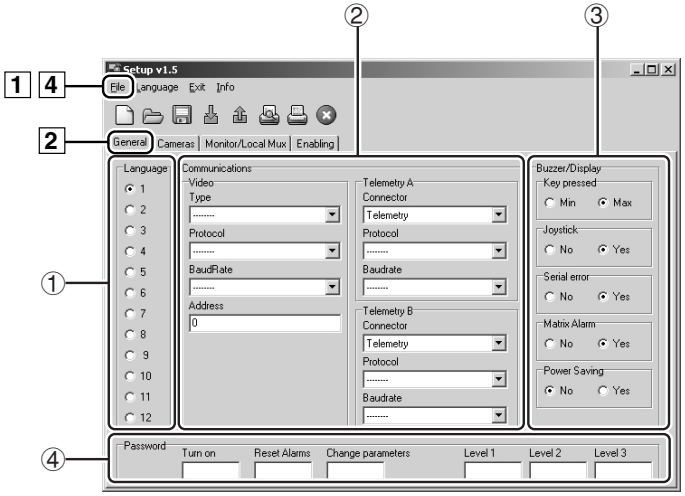
Set the number of connected video equipment.

[Enabling] (P67)

Other functions can be started or stopped.

English

A General (General Settings)



1 From the “File” menu, select “New”.

- To open saved settings, select “Open”.
- To download the current unit settings and change them, select “Receive from keyboard”.

2 Click the [General] tab.

3 Make the various settings. (P63)

① Language (Select Language)
② Commnunications (Communication Setup)
③ Buzzer/Display (Buzzer and Menu Display Setup)
④ Password (Password Setup)

4 Make the various selections.

- To make other settings, switch using the tabs and continue operation.
- To save settings in the PC, on the “File” menu select “Save”.
- When selecting “Send to keyboard” on the “File” menu, the system setup content is uploaded to the unit.

English

① **Language (Select Language):**

Each number corresponds to the number by each language displayed in the LANGUAGE screen under System Setup ( ).

Check the display language and select the proper number.

② **Communications (Communication Setup):**

■ **When controlling a camera connected to our video equipment (Video)**

Upon purchasing, the communication settings are set for connecting to our video equipment (DVR/MUX), and the settings do not need to be changed.

For communication setup for competitor video equipment, see the “Communications Chart”. (P86)

- **Type:**

  This displays the equipment (**DVR/MUX**) connected to the video communication terminal. Changing the type will require changing the Protocol and Baudrate as well.
- **Protocol:**

  This shows the communication protocol (**SANYO DVR/MU**) used on this unit.
- **BaudRate:**

  Select the data transmissions speed (**19200**) for the connected video equipment.
- **Address:**

  This is the unit address.

■ **Communication setup when using our video equipment and cameras (Telemetry A)**

Upon purchasing, the communication settings are set to connect our video equipment to cameras using coaxial cables.

Communication uses the video communication terminal (VIDEO).

- **Connector:**

  Video: Connecting cameras via video equipment.

  Telemetry: Operating a camera by connecting this unit to camera using modular cable.
- **Protocol:**

  The communication protocol used on this unit is **SANYO SSP**. Every time the communication protocol is changed, “Baudrate” is restored to the default value.
- **Baudrate:**

  Select the data transmissions speed for the camera connected to camera communication terminal A.

Note: When “Video” is selected for “Connector”, the Video data transmission speed is fixed, and “Baudrate” cannot be set.

■ **Communication setup when using competitor cameras (Telemetry B)**

- **Connector: Telemetry**

  Operating a camera by connecting this unit to camera using modular cable.
- **Protocol:**

  This is the communication protocol used on this unit.

  Every time the communication protocol is changed, “Baudrate” is restored to the default value.
- **Baudrate:**

  Select the data transmissions speed for the camera connected to camera communication terminal B.

③ **Buzzer/Display (Buzzer and Menu Display Setup):**

Select and check the setup for each item.

- **Key pressed: Button operation**

  This setting sounds a buzzer when a button on the screen is pressed.

  Selections: Min (soft), **Max** (loud)
- **Joystick: Joystick Operation**

  This setting sounds a buzzer when the joystick is moved.

  Selections: No, **Yes**
- **Serial error: Serial error detection**

  This setting sounds a buzzer upon a serial communication error.

  Selections: No, **Yes**
- **Matrix Alarm:**

  Selections: No, **Yes**
- **Power Saving:**

  Selections: **No**, Yes

④ **Password (Password Setup):**

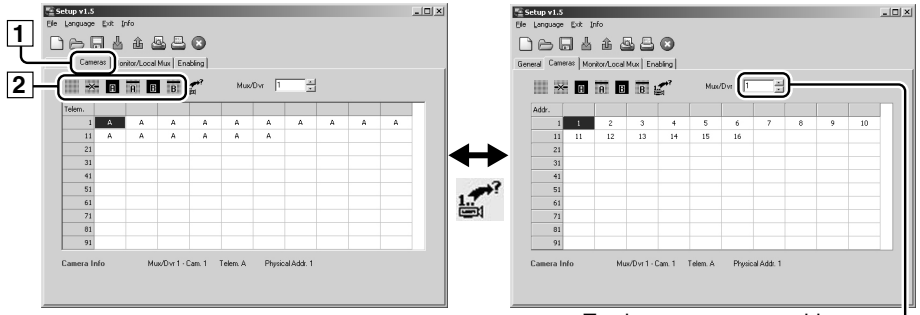
Enter when setting a password for the following items.

- Turn on: Upon power ON
- Reset Alarms: Upon alarm reset
- Change parameters: Upon accessing setup menu
- Level 1: Upon calling up “Level 1” functions
- Level 2: Upon calling up “Level 2” functions
- Level 3: Upon calling up “Level 3” functions

For level settings, see the “Jump page” on P75.

English

B Cameras (Camera communication setup)



To change a camera address connected to another Dvr/Mux, change the Dvr/Mux address.

1 Click the [Cameras] tab.

2 Set camera lines using the various buttons.

: Clear button
Disconnects all cameras.

: Single row clear button
Clears a row at a time.

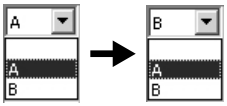
: A/B line switch button
When pressed, all camera connection terminals switch to A.

: Single row switch button
When pressed, a row of connection terminals switch to A.

: A/B line switch button
When pressed, all camera connection terminals switch to B.

: Single row switch button
When pressed, a row of connection terminals switch to B.

3 Select a camera for communication settings, double-click it, and click the button to display a menu. Select the desired status.



Blank: Stop

A: Output from line A.

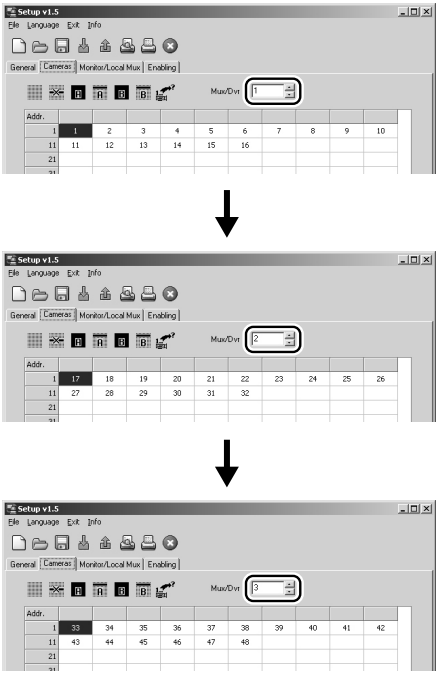
B: Output from line B.

The setting information is displayed in the "Camera info" line at the bottom of the screen. When the setting is blank, "Disabled" is displayed.

English

Changing the Camera Address Number

- Click to enter input/output settings mode (upper left grid displays “Addr.”). To set a camera address, double-click it and enter the number.
- To change the address of a camera connected to another hard disk digital recorder or multiplexer (Dvr/Mux), use the spin button to change the Dvr/Mux address.

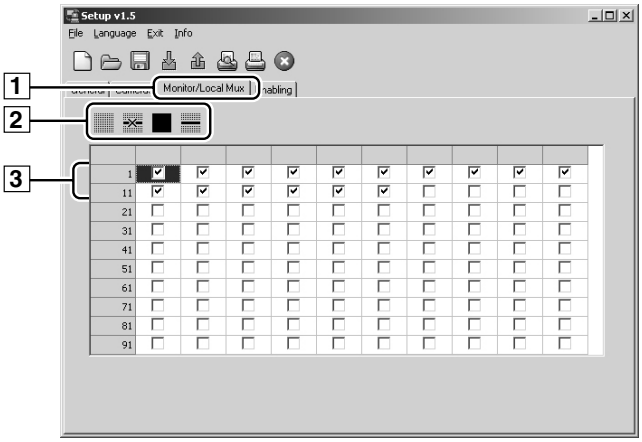


4 Make the various selections.

- To make other settings, switch using the tabs and continue operation.
- To save settings in the PC, on the “File” menu select “Save”.
- When selecting “Send to keyboard” on the “File” menu, the system setup content is uploaded to the unit.

English

C Monitor/Local Mux
(Valid/Invalid setup for hard disk digital recorder with multiplexer)



1 Click the [Monitor/Local Mux] tab.

2 Set the video equipment output using the various buttons.

: Clear button
Invalidates all video equipment.

: Single row invalidate button
Sets a row to be invalid.

: All valid button
Validates all video equipment.

: Single row switch button
Sets a row to be valid.

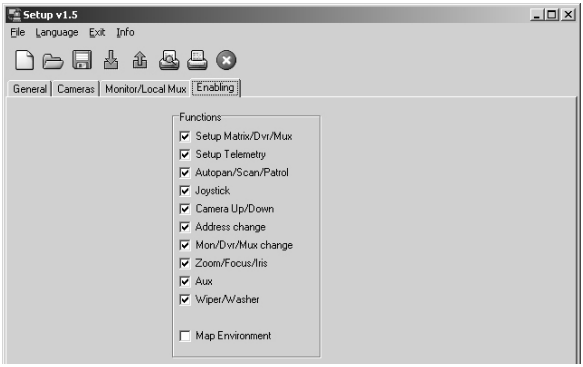
3 For video equipment not connected, turn the checkbox OFF (blank).

4 Make the various selections.

- To make other settings, switch using the tabs and continue operation.
- To save settings in the PC, on the “File” menu select “Save”.
- When selecting “Send to keyboard” on the “File” menu, the system setup content is uploaded to the unit.

English

D Enabling (stopping or starting settings)



1 Click the [Enabling] tab.

2 Check the functions to turn ON.

Uncheck the functions to turn OFF, leaving them blank.

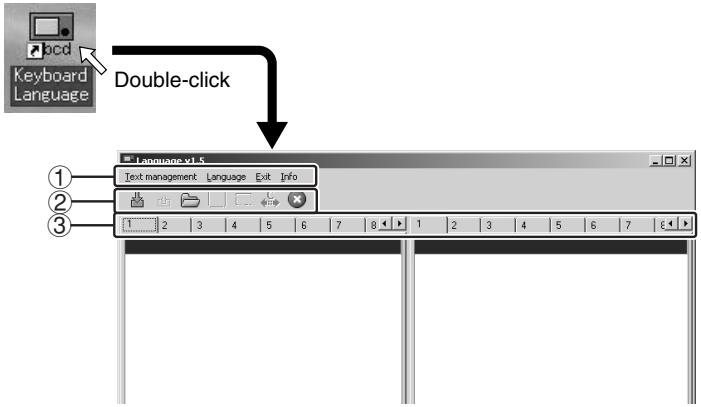
- **Setup Matrix/Dvr/Mux**
  Enables display of the video equipment menu.
- **Setup Telemetry**
  Enables display of the camera menu.
- **Autopan/Scan/Patrol**
  Enables automatic operation of dome cameras.
- **Joystick**
  Enables joystick operation.
- **Camera Up/Down**
  Moves camera input channel up and down. (Function only available when matrix multiplexer is connected.)
- **Address change**
  Enables changing the camera address for a hard disk digital recorder channel. When ON, a camera icon is displayed in the upper left of the camera address screen.

- **Mon/Dvr/Mux change**
  Enables changing DVR-MUX address.
- **Zoom/Focus/Iris**
  Enables changing zoom, focus, and iris values for connected cameras.
- **Aux**
  Enables Aux operation of connected cameras.
- **Wiper/Washer**
  Enables wipers and washers, special functions of connected cameras.
- **Map Environment**
  Displays a user-created map when power is turned ON.

3 Make the various selections.

- To make other settings, switch using the tabs and continue operation.
- To save settings in the PC, on the “File” menu select “Save”.
- When selecting “Send to keyboard” on the “File” menu, the system setup content is uploaded to the unit.

Language Setup (Language)



① Menu

[Text management]

Receive from keyboard:

Receives the current language from the unit.

Load from file:

Opens language settings file.

Send to keyboard:

Uploads software language settings to the unit.

Save on file:

Saves current language settings to a file.

Special characters:

Displays an input screen for special characters.

COM Port:

Select the PC port number (1 to 9).

[Language]

Select the menu display language for this software.

[Exit]

Exit the software.

[Info]

Display the software version.

② Toolbar

Click these icons as a shortcut to performing each operation.

: Download unit settings to this software.

: Upload software settings to the unit.

: Opens language settings file.

: Saves current language settings to a file.

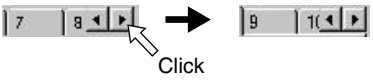
: Displays an input screen for special characters.

: Copy a word to the same row (one row at a time)

: Exit the software.

③ Tabs

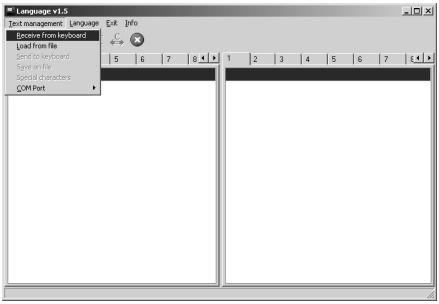
Click the tabs to switch the language numbers (1 to 12) to the left and right of the language window.



English

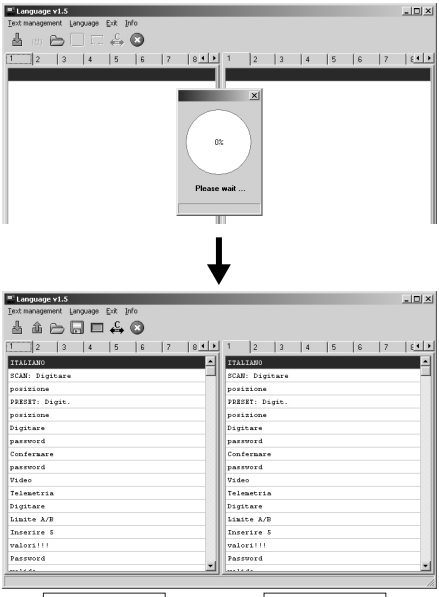
■ Creating Two Different English Tabs

1 From the “Text management” menu, select “Receive from keyboard”.



2 Receives the current language from the unit.

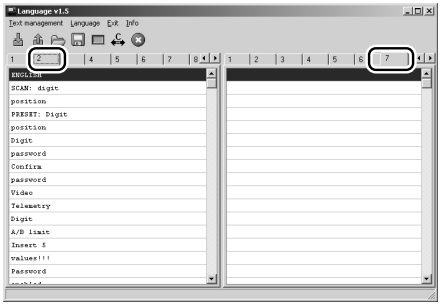
The receive status is displayed on the screen, and the language is displayed when receiving is complete.



Window A Window B

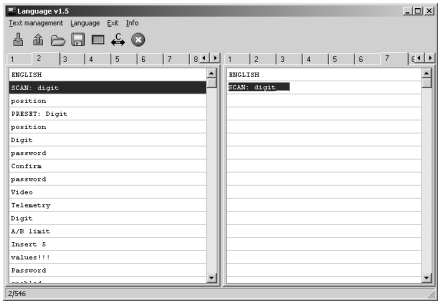
Example: Creating Two Different English Language Setups

3 Select Tab 2 (English) in Window A, and Tab 7 in Window B.



4 Select “SCAN: digit” in Window A, and click .

“SCAN: digit” is copied to Window B.



5 Click “SCAN: digit”, and delete “: digit”.

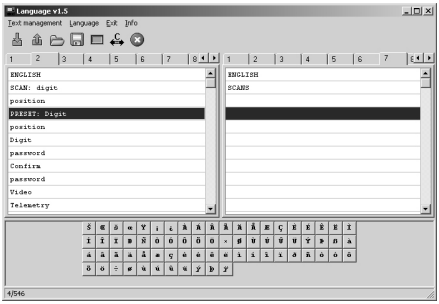
6 Enter “S” after “SCAN”, and press Enter.

The word now reads “SCANS”.

English

7 Use the same procedure to change other words or change them into symbols, creating tabs with different English wording.

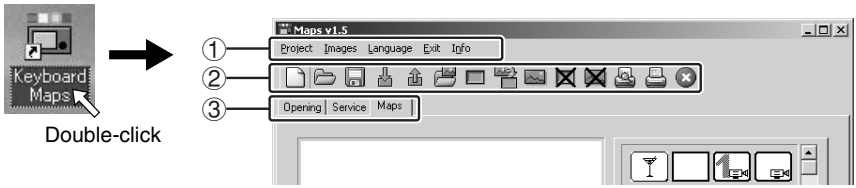
Pressing will display the special character input screen.
Enter the language name in the top row.



8 From the “Text management” menu, select “Send to keyboard”.

- This uploads these software language settings to the unit.
- To save settings in the PC, on the “Text management” menu select “Save on file”.
- To select the created language, check its number in the Setup software under “General” – “Language”. (P62)

Graphics Environment Setup (Maps)



① Menu

[Project]

- **New:** Creates new graphics.
- **Open:** Opens an existing file.
- **Save:** Saves current settings.
- **Save as:**
  Save settings by another name
- **Receive from keyboard:**
  Downloads the current settings from the unit.
- **Send to keyboard:**
  Upload software settings to the unit.
- **Print preview:**
  Display a print preview of the settings list.
- **Print:** Print a settings list.
- **COM port:**
  Select the PC port number (1 to 9).

[Images]

- **Import:** Reads an image file.
- **Change image:**
  Creates or changes the background screen. (P82)
- **Keys surround:**
  Emphasizes the outlines of buttons placed on the screen.
- **Import keys images:**
  Reads a button illustration.
- **Delete keys:**
  Deletes all buttons currently on the screen.
- **Delete background:**
  Deletes background of selected screen.

[Language]

Select the menu display language for this software.

[Exit]

Exit the software.

[Info]

Display the software version.

② Toolbar

Click these icons as a shortcut to performing each operation.

: Create new system settings.

: Open existing settings.

: Saves current settings.

: Downloads the current settings from the unit.

: Upload software settings to the unit.

: Reads an image file.

: Emphasizes the outlines of buttons placed on the screen.

: Reads a button illustration.

: Creates or changes the background screen. (P82)

: Deletes all buttons currently on the screen.

: Deletes background of selected screen.

: Display a print preview of the settings list.

: Print a settings list.

: Exit the software.

③ Tabs

Click the tabs to switch between three operation screens.

[Opening]

Setup of opening screen upon power ON (P72)

[Service]

Setup for screen displayed when a system information screen button SERVICE is pressed (P72)

[Maps]

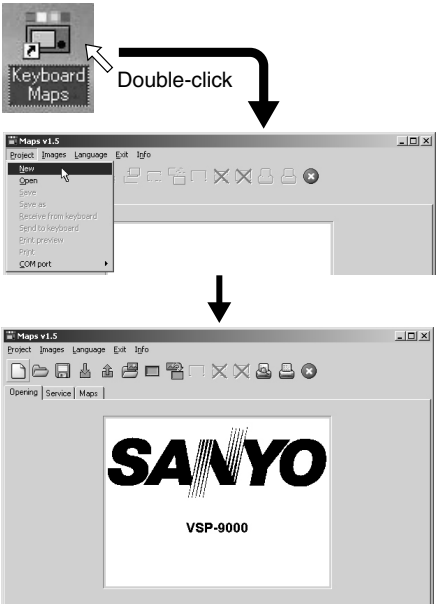
Create a map (P73)

English

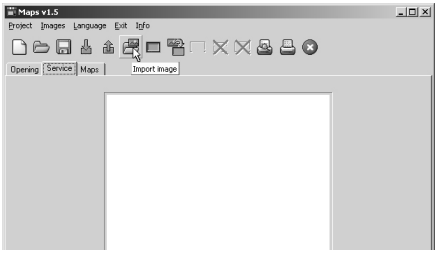
■ Display Telephone Number on Opening Screen

1 From the “Project” menu, select “New”.

The Opening screen appears.

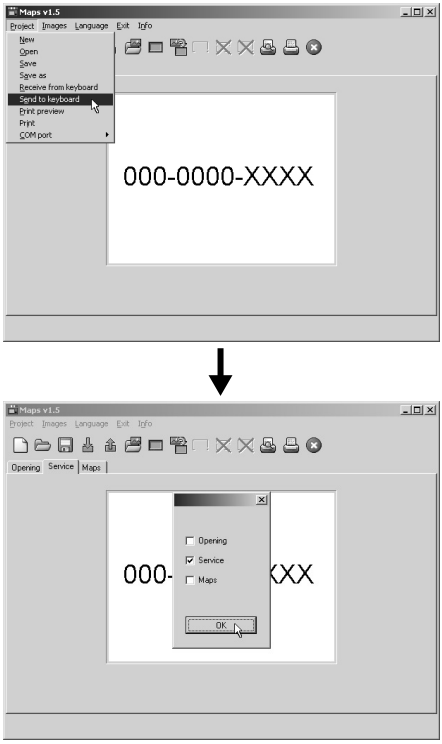


2 Click the “Service” tab, click “ ”, and select the image file to read.



3 From the “Project” menu, select “Send to keyboard”.

A dialog box is displayed for selecting the upload screen. Check the “Service” checkbox, and click the OK button. The pasted image is uploaded.



Saving settings on PC

From the “Project” menu, select “Save”.

English

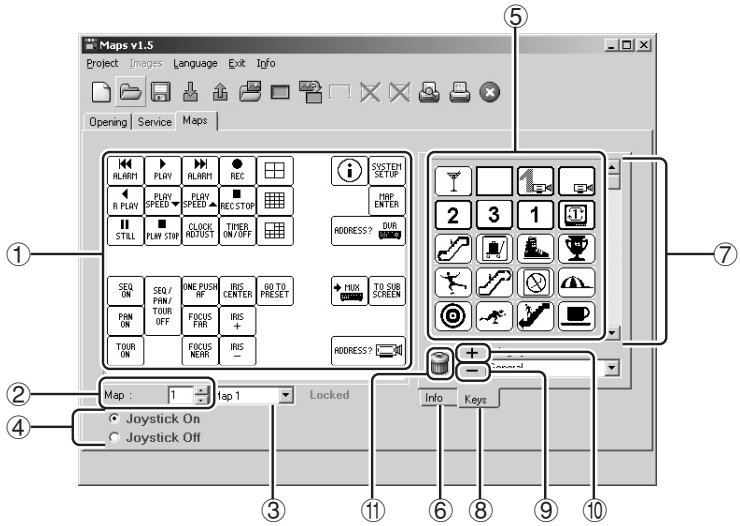
■ Map Screen Explanation

1 From the “Project” menu, select “New”.

The Opening screen appears.

2 Click the [Maps] tab.

The left window displays Map 1, and the right window displays the General icon.



English

① Map Display

② Map Selection

Click the up or down arrows on the spin button to switch the map display screen.

Note: Maps 1 to 4 are basic displays for this unit, and cannot be changed (Locked). To allocate button functions, select Map 5 to 30.

③ Map selection button

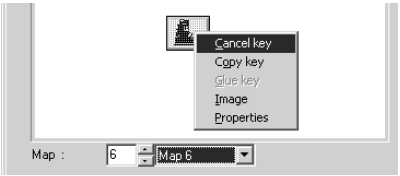
From the pull-down menu, select the map number to register.

④ Joystick Function Selection

- Select whether to apply the unit joystick function to the allocated map. Click the appropriate radio button.
- Click the "Info" tab to display the "Joystick" selection. Check it to select turning the joystick ON or OFF.

⑤ Icon palette

Drag and drop a selected icon onto the map display to paste the icon.



- To paste a blank grey button, click any position on the map display.
- Right-click the pasted icon to display a pop-up menu.
- To add an icon to the icon palette, right-click the mouse on the icon palette to display a pop-up menu.

The following operations are available.

Cancel key: Deletes a key.

Copy key: Copies a key.

Glue key: Pastes the copied key.

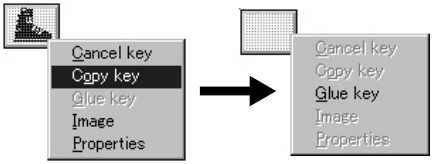


Image:

Pastes another prepared image onto a pasted key.

Properties:

Sets a function for the pasted key.

Click to display the "**Allocation Setup Screen (P75)**". Select whether to allocate a button function.

⑥ Info tab

Select a button on the Map display to display the button function and allocation information.

⑦ Icon scrollbar

This shows all icons available by category.

⑧ Keys tab

Displays the icon palette.

⑨ – button

Deletes a saved icon group displayed on the pull-down menu bar.

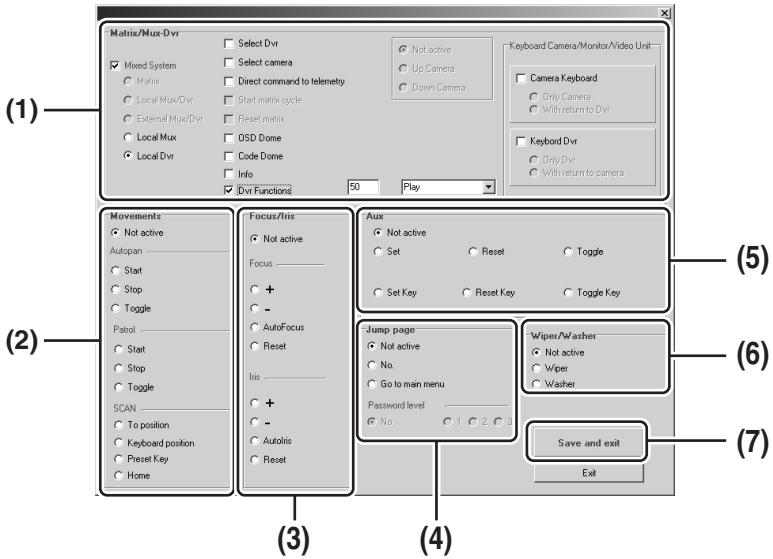
⑩ + button (Category)

Saves an icon group as a new category.

⑪ Recycle Bin

English

(Allocation Setup Screen)



(1) Matrix/Mux-Dvr

Allocates functions and selects video equipment and cameras for operation.

(2) Movements

Allocates dome camera automatic functions.

See Protocol Chart (Autopan/Patrol). (P79, 80)

(3) Focus/Iris

Allocates camera focus and iris functions.

(4) Jump page

Allocates Map switching functions (Password levels can be set to perform this function).

(5) Aux

Allocates other camera functions.

(6) Wiper/Washer

Allocates wiper and washer functions.

(7) Save and exit

Click when allocation is complete.

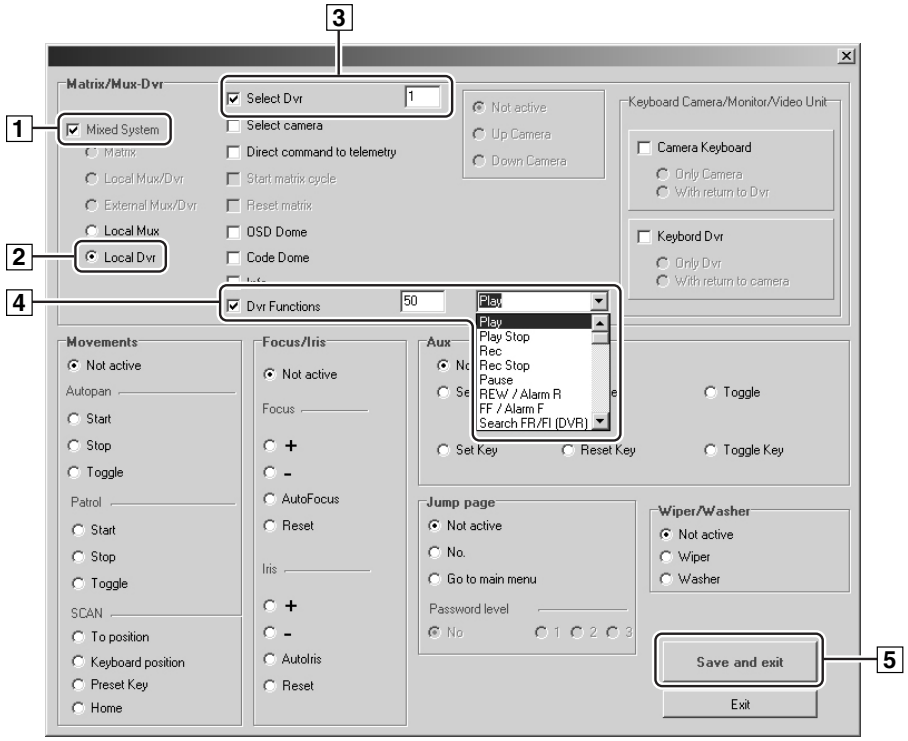
This saves the settings and exits the allocation setup screen.

To exit the allocation screen without saving, click “Exit”.

English

■ Sample Equipment Allocation

A To allocate “Play” to the hard disk digital recorder (DVR) at address 1



1 Check “Mixed System”.

2 Check “Local Dvr”.

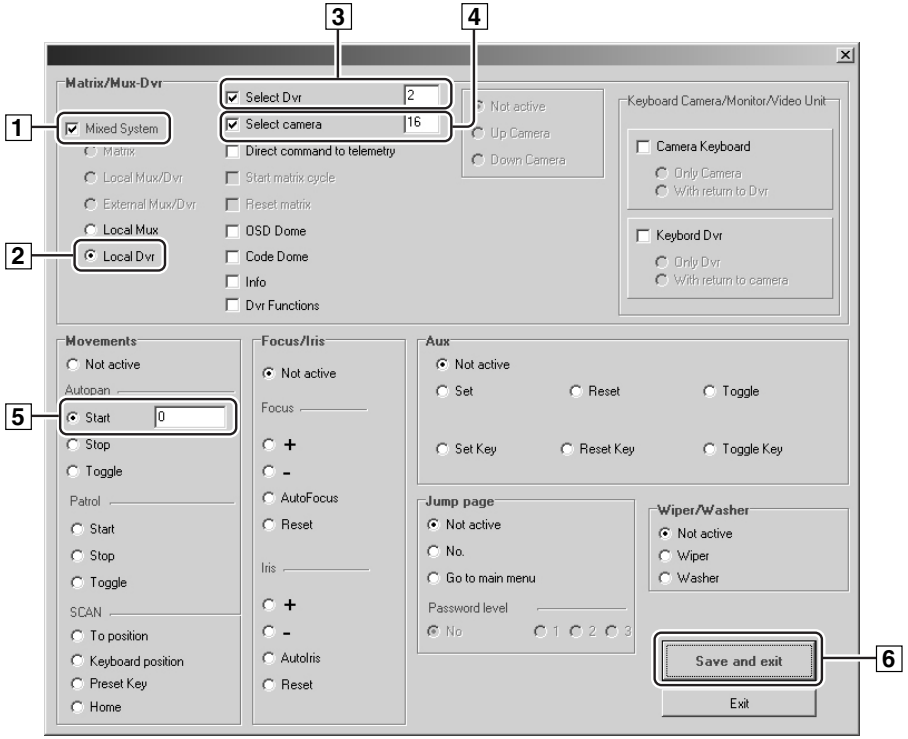
3 Check “Select Dvr”, and enter “1” in the text box (input field).

4 Check “Dvr Functions”, and select “Play” from the pull-down menu.

5 Press “Save and exit” to exit the screen.

English

B Select the camera connected to CH16 of the hard disk digital recorder (DVR) on address 2, and allocate "Autopan".



1 **Check "Mixed System".**

2 **Check "Local Dvr".**

3 **Check "Select Dvr", and enter "2" in the text box (input field).**

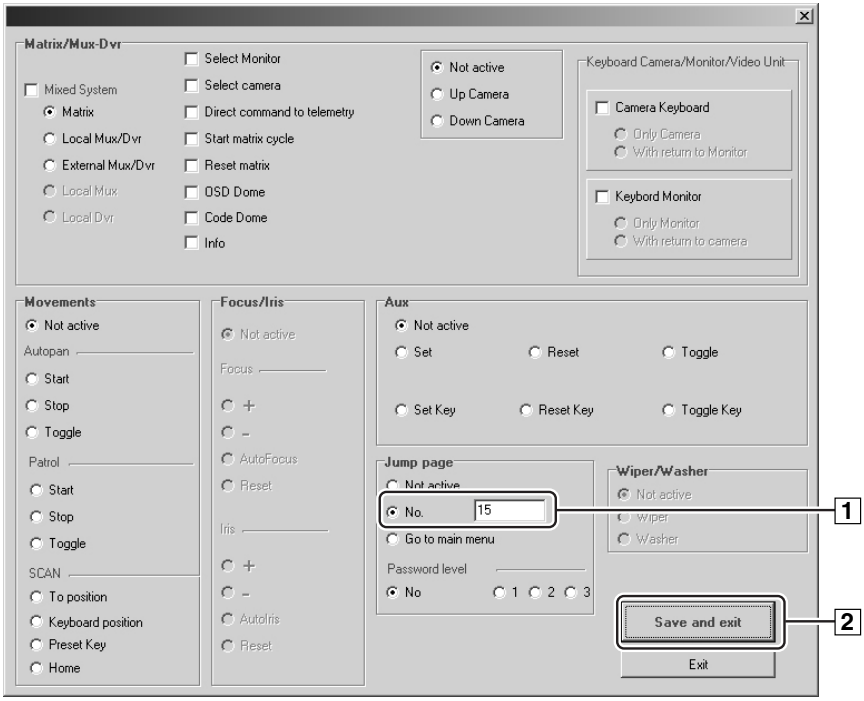
4 **Check "Select camera", and enter "16" in the text box.**

5 **Under Movements, under Autopan, click the radio button by "Start", and enter "0" in the text box.**

6 **Press "Save and exit" to exit the screen.**

English

C To switch the map display screen to Map 15



1 **At the lower right of the screen, by “Jump page”, check “No.”, and enter “15” in the text box.**

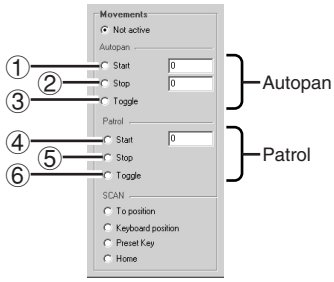
2 **Press “Save and exit” to exit the screen.**

English

■ Protocol Chart (Autopan)

Protocol	Start ①		Stop ②		Toggle ③	
	Number	Function	Number	Function	Number	Function
----------	1..32	START MULTISEQUENCE (*)	1..32	START SALVO (*)	1..32	START SEQUENCE(*)
ELBEX	0..2	0 START AUTOPAN 1 START AUTOPAN LEFT 2 START AUTOPAN RIGHT				
ELMO	0	START AUTOPAN	0	STOP AUTOPAN		
ENEO	0	START AUTOPAN	0	STOP AUTOPAN		
ERNITEC	0	START AUTOPAN				
FASTRAX	1..8	START AUTOPAN	1..8			
JVC	0	START AUTOPAN	0	STOP AUTOPAN		
MACRO	0	START AUTOPAN	0	STOP AUTOPAN	0	TOGGLE AUTOPAN
PANASONIC	0	START AUTOPAN	0	STOP AUTOPAN		
PELCO						
SAMSUNG	0	START AUTOPAN	0	STOP AUTOPAN		
SANYO SSP	0	START AUTOPAN	0			
SANYO HSSP	0	START AUTOPAN	0			
SANTEC	1..8	START AUTOPAN	1..8			
SENSORMATIC	0	START AUTOPAN				
STAR	0	START AUTOPAN	0	STOP AUTOPAN		
VCL	0	START AUTOPAN	0	STOP AUTOPAN		
VIDEOTEC	0	START AUTOPAN	0	STOP AUTOPAN	0	TOGGLE AUTOPAN

(*) only with VKR Eneo matrix on video line



English

■ Protocol Chart (Patrol)

Protocol	Start ④		Stop ⑤		Toggle ⑥	
	Number	Function	Number	Function	Number	Function
----------	1..32	START TOUR (*)	0	STOP TOUR (*)	0	RESET TOUR(*)
ELBEX						
ELMO	0..3	START SEQUENCE 1..4 (0..3)				
ENEO	0	START PATROL	0	STOP PATROL		
ERNITEC	0	START PATROL				
FASTRAX	1..8 9..12	START TOUR 1..8 START PATTERN 1..4 (9..12)				
JVC	0..2	START PATROL 1..3 (0..2)	0	STOP PATROL		
MACRO	0..1	START PATROL STANDAR (0) START PATROL S.A. (1)	0..1	STOP PATROL STANDAR (0) STOP PATROL S.A. (1)	0..1	TOGGLE PATROL STANDAR (0) TOGGLE PATROL S.A. (1)
PANASONIC		START PATROL	0	STOP PATROL		
PELCO	0	START PATTERN				
SAMSUNG	0..3	0 START PATROL 1 START PATTERN 1 2 START PATTERN 2 3 START PATTERN 3	0..3	0 STOP PATROL 1 STOP PATTERN 1 2 STOP PATTERN 2 3 STOP PATTERN 3		
SANYO SSP	0..1	0 START TOUR 1 START SEQUENCE				
SANYO HSSP	0..1	0 START TOUR 1 START SEQUENCE				
SANTEC	1..8 9..12	START TOUR 1..8 START PATTERN 1..4 (9..12)				
SENSORMATIC	1..4	START PATTERN 1..3 4 START APPLE PEEL FUNCTION				
STAR	0..5	START GROUP 1..6 (0..5)	0	STOP GROUP		
VCL	1..5	START PATROL 1..4 5 START LAST PATROL	0	0 START TOUR 1 START SEQUENCE		
VIDEOTEC	0..1	START PATROL STANDAR (0) START PATROL S.A. (1)	0..1	STOP PATROL STANDAR (0) STOP PATROL S.A. (1)	0..1	TOGGLE PATROL STANDAR (0) TOGGLE PATROL S.A. (1)

(*) only with VKR Eneo matrix on video line

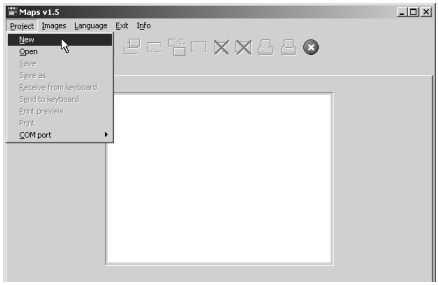
English

■ Changing the Opening screen to “SANYO”

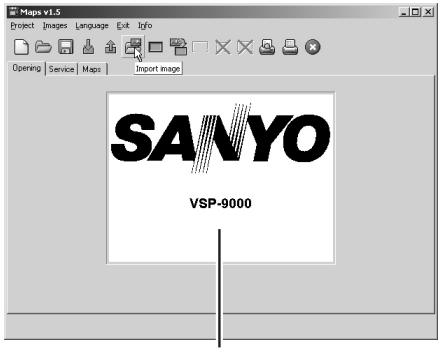
1 From the “Project” menu, select “New”.

The Opening screen appears.

Double-click



2 Click the “ ” icon, and select the image file to read.

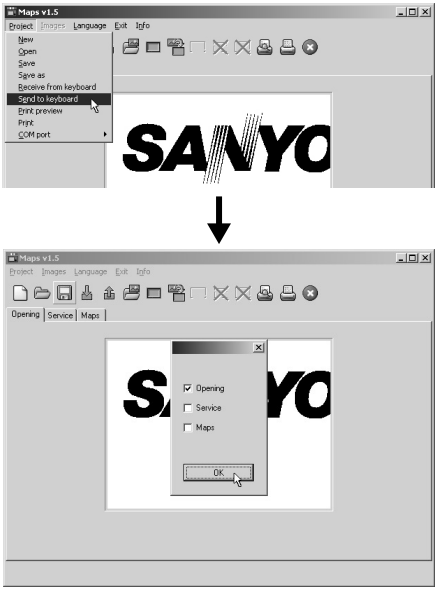


Opening Screen

3 Pastes the selected “SANYO” logo onto the opening screen.

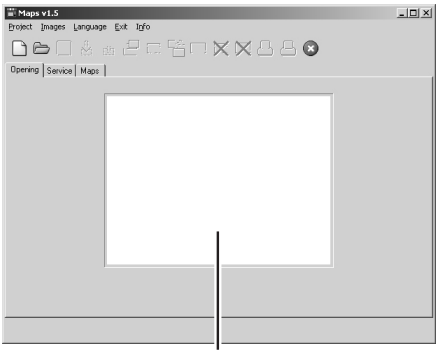
4 From the “Project” menu, select “Send to keyboard”.

A dialog box is displayed for selecting the upload screen. Check the “Opening” checkbox, and click the OK button. The pasted image is uploaded.



English

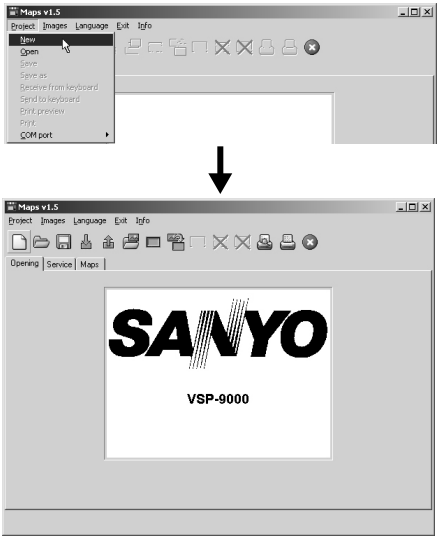
■ Create a map using the graphics tool and display on opening screen.



Opening Screen

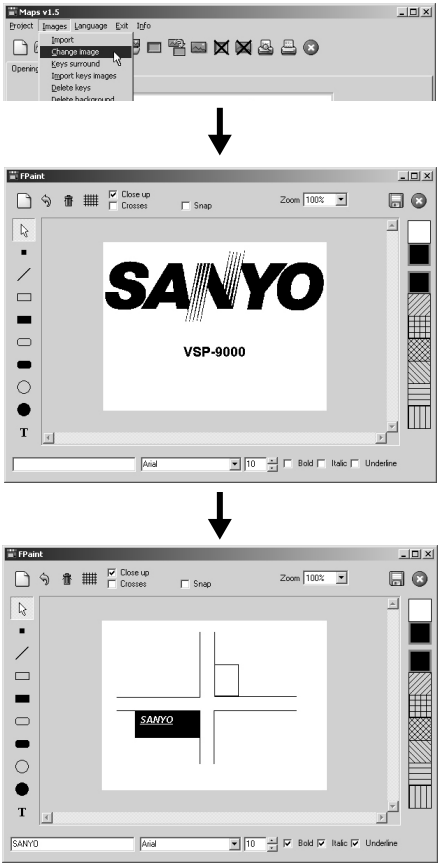
1 From the “Project” menu, select “New”.

The Opening screen appears.



2 From the “Images” menu, select “Change image”.

A paint screen (FPaint) is displayed. Create a map or other graphic using the graphics tool.

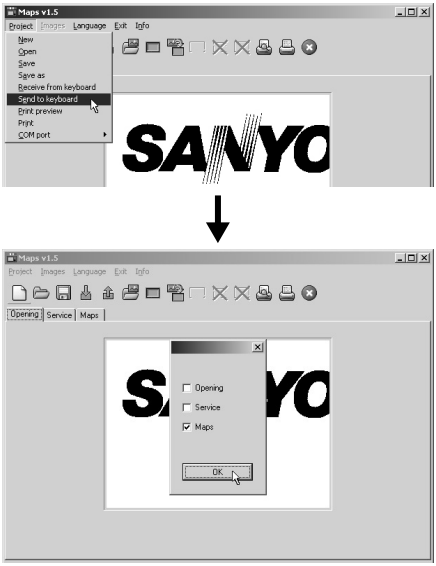


English

3 **Click** **to save settings.**

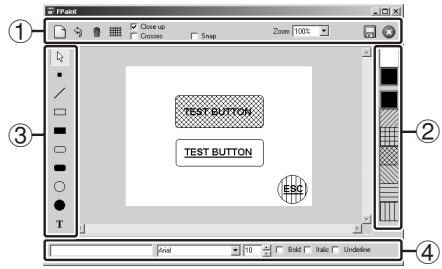
4 **From the "Project" menu, select "Send to keyboard".**

A dialog box is displayed for selecting the upload screen. Check the "Maps" checkbox, and click the OK button. The pasted image is uploaded.



Saving settings on PC

From the "Project" menu, select "Save".



① General Tools

: Cancel the entire drawing.

: Cancel the previous operation (UNDO).

: Delete the item selected with the cursor.

: Display a grid or crosses for estimating the position.

Check the pattern of your choice.

Close up: Grid (displayed on top of item)

Crosses: Display crosses.

Snap: Grid (displayed underneath item)

Zoom: Selects the display magnification.

: Saves the image and exits "FPaint".

: Exits "FPaint" without saving the image.

② Color/Background Tools

: Selects white (When drawing on top of background pattern, etc.).

: Selects black

:

Selects a background pattern (Becomes background when drawing with , , or .)

English

③ Drawing Tools

: Selects the item (cursor)

: Draws lines freehand

: Draws straight line

: Draws rectangle (outline only)

: Draws solid rectangle

: Draws rectangle with rounded corners (outline only)

: Draws solid rectangle with rounded corners

: Draws circle (outline only)

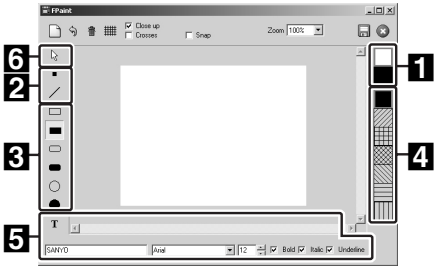
: Draws solid circle

T : Specifies character insertion position (Characters are input into the text input area first)

④ Text input area

Sets characters, font, size, and embellishments (Bold, Italic, Underline). Characters are positioned in the area specified using the T cursor.

■ Basic Graphics



1 Select the color to use

To draw white lines, click "□". To draw black lines, click "■".

2 Draw lines

To draw lines freehand, click " ▪ ". To draw straight lines, click " ／ ".

3 Draw shapes

Click ▭ , ▬ , or other buttons.

4 Fill shapes with patterns

Click " ▨ " or " ▦ ", then " ▬ " or other buttons.

5 Draw characters

Input characters, select the font and size, then click " T ".

6 Move or delete shapes or lines

- **Move:**
  Click " ↖ ", then select and move a shape.
- **Delete:**
  Click " ↖ ", then select and move a shape to the Recycle Bin.

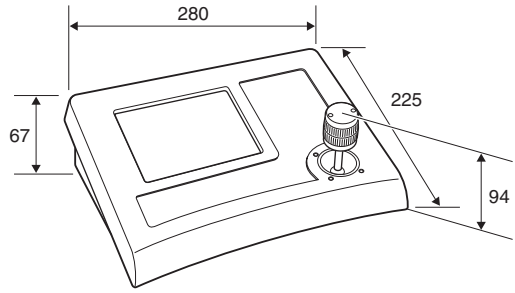
English

Specifications

Communication Method	RS485
Keyboard	Backlight LCD, 320 x 240 touch screen
Joystick	Three-axis joystick (pan/tilt/zoom)
Control terminal	RJ-11 terminal: VIDEOx1, TELEMETERYx2
RS-232C terminal for PC	D-SUB (9-pin): 1 terminal
Dipswitch	• Normal mode/PC mode: 1-bit dipswitch • Terminate: 3-bit dipswitch (Video/Telemetry A/B)
Communication speed	2400, 4800, 9600, 19200 bps
Maximum number of connected equipment	Total: 256 units • Controller: 5 units • Multiplexer, hard disk digital recorder: 100 units total • Dome camera, CCD camera: TELEMETRY A 127 units TELEMETRY B 127 units • Dome camera: 64 units
Usage conditions	Temperature: 5°C to 40°C Humidity: 80% or less
Storage conditions	Temperature: –20°C to 60°C Humidity: 80% or less
Power source (AC adapter)	Input voltage: 100 – 240 V AC 50/60Hz Output voltage: 12 V DC
Current consumption	1A
Weight	900g

Appearance and specifications may be revised without notice. Thank you for your understanding.

■ Outer Dimensions (Units: mm)



English

Appendix

■ Communications Chart

1–VIDEO (Video Line)

```
Type              DVR/MUX
Protocol    SANYO DVR/MU
Baudrate            19200
```

Type	Protocol	Baudrate
DVR/MUX	SANYO DVR/MU	2400, 4800, 9600, 19200
- - - - - - - - - - - - - -	- - - - - - - - - - - - - -	- - - - - - - - - - - - - -
4/2 VIDEOTEC	MACRO MACRO NO P.	1200, 9600, 19200, 38400 1200, 9600, 19200, 38400
8/2 VIDEOTEC	MACRO MACRO NO P.	1200, 9600, 19200, 38400 1200, 9600, 19200, 38400
8/4 VIDEOTEC	MACRO MACRO NO P.	1200, 9600, 19200, 38400 1200, 9600, 19200, 38400
16/4 VIDEOTEC	MACRO VIDEO TEC MACRO NO P.	1200, 9600, 19200, 38400 300, 1200, 2400, 9600 1200, 9600, 19200, 38400
32/8 VIDEOTEC	MACRO VIDEOTEC MACRO NO P.	1200, 9600, 19200, 38400 9600 1200, 9600, 19200, 38400
128/16 VIDE.	MACRO MACRO NO P.	1200, 9600, 19200, 38400 1200, 9600, 19200, 38400

English

2–TELEMETRY A (Camera Line)

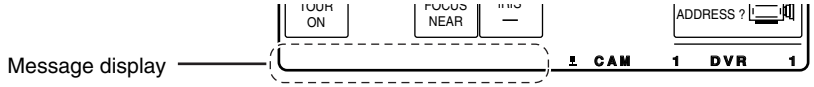
Connector	Protocol	Baudrate
Video A-CONNECTOR Video A-PROTOCOL SANYO SSP A-Baudrate ----- When any other protocol is selected, the connector is automatically displayed as “Telemetry”.	SANYO SSP **SANYO HSSP**	- - - - - - - - **- - - - - - - -**
Telemetry A-CONNECTOR Telemetry A-PROTOCOL SANYO SSP A-Baudrate 19200	**SANYO SSP** SANYO HSSP SENSORMAT. VCL VIDEOTEC - - - - - - - - - - - - ERNITEC MACRO MARK M. PELCO	2400, 4800, 9600, **19200** 2400, 4800, 9600, 19200 4800 9600 1200, 9600 - - - - - - - - - - - - 1200, 2400, 4800, 9600, 19200, 38400 1200, 9600, 19200, 38400 9600 2400, 4800, 9600, 19200

2–TELEMETRY B (Camera Line)

Connector	Protocol	Baudrate
Telemetry B-CONNECTOR Telemetry B-PROTOCOL PELCO B-Baudrate 19200	- - - - - - - - - - - - ERNITEC MACRO MARK **PELCO** SANYO SSP SANYO HSSP SENSORMAT. VCL VIDEOTEC	- - - - - - - - - - - - 1200, 2400, 4800, 9600, 19200, 38400 1200, 9600, 19200, 38400 9600 2400, 4800, 9600, **19200** 2400, 4800, 9600, 19200 2400, 4800, 9600, 19200 4800 9600 1200, 9600

English

Message Chart



ALARM: Esc to exit	PATROL: Sent 'Walk' Stop
AUX: Select function	PATROL: Sent Recording "Walk" nr.
AUX: Function not available	PRESET: Select function
AUX: Function not enabled	PRESET: Sent Delete preset position
AUX: Sent Set	PRESET: Esc to exit
AUX: Sent Reset	PRESET: Sent Preset command
AUX: Sent Toggle	PRESET: Sent Delete Preset
AUTOFLIP: Function not available	PRESET MARK M.: Esc to exit
AUTOFLIP: Function not enabled	PRESET MARK M.: Select function
AUTOFLIP: Sent enabled Autoflip	SCAN: Function not enabled
AUTOFLIP: Sent Autoflip toggle	SCAN: Esc to exit
AUTOFLIP: Sent Autoflip set	SCAN: Sent Scan command
AUTOFLIP: Sent Autoflip reset	SCAN: Sent Home
AUTOFLIP: Select function	SCAN: Sent Home (Scan at posit.nr.1)
AUTOPAN: Select function	SCAN: Sent "Back"
AUTOPAN: Sent Autopan Start	SEQUENCE: Sent sequence
AUTOPAN: Sent Autopan Stop	SETUP: Select function
AUTOPAN: Sent Autopan Toggle	SETUP: Sent Line Lock increment
AUTOPAN: Function not enabled	SETUP: Sent Line Lock decrement
AUTOPAN: Function not available	SETUP: Sent Enabled alarm mode
CAMERA: Esc to exit	SETUP: Sent Disabled alarm mode
CAMERA: Recall camera nr.	SETUP: Sent Home position storage
CAMERA: Camera not enabled!	SETUP: Sent Home position reset
CAMERA: Sent command	SETUP: Sent Toggle Mono/Color
DOME: Sent 'camera setup'	SETUP: Sent Auto Mono/Color
DOME: Sent 'dome setup modification'	SETUP: Sent V- phase+
DOME: Sent 'dome setup exit'	SETUP: Sent V- phase-
DOME: Sent 'Enter Menu'	SETUP: Esc to exit
DOME: Function selection	SETUP: Sent receiver Reset
DOME: Sent 'Move Up'	TELEMETRY LINE "A": BUSY/ERROR
DOME: Sent 'Move Down'	TELEMETRY LINE "B": BUSY/ERROR
DOME: Sent 'Move Left'	LINE "VIDEO": BUSY/ERROR
DOME: Sent Move Right'	VIDEO: Function not enabled
FOCUS: Function not enabled	VIDEO: Sent camera increase
FOCUS: Select function	VIDEO: Sent camera decrease
FOCUS: Sent Focus Near	VIDEO: Function not available
FOCUS: Sent Focus Far	VIDEO: Sent matrix sequence start
FOCUS: Sent AutoFocus	VIDEO: Monitor not enabled!
FOCUS: Sent disabled AutoFocus	VIDEO: Recall monitor nr.
IRIS: Function not enabled	VIDEO: Sent 'Up Arrow'
IRIS: Select function	VIDEO: Sent 'Down Arrow'
IRIS: Sent Iris Open	VIDEO: Sent 'SEQ'
IRIS: Sent Iris Close	VIDEO: Sent 'Matrix setup modification'
IRIS: Sent AutoIris	VIDEO: Select function
IRIS: Sent disabled AutoIris	VIDEO: Sent number
PATROL: Sent Start S.A.	VIDEO: Sent 'M/A'
PATROL: Sent Toggle S.A.	VIDEO: Sent 'STP'
PATROL: Function not enabled	VIDEO: Sent 'CRL'
PATROL: Select function	VIDEO: Sent 'ENT'
PATROL: Sent Start	VIDEO: Unit not enabled
PATROL: Sent Stop	VIDEO: Recall unit nr.
PATROL: Sent Toggle	VIDEO: Dvr not enabled
PATROL: Sent enabled Pattern	VIDEO: Mux not enabled
PATROL: Sent Pattern Definition	VIDEO: Recall Dvr nr.
PATROL: Sent Pat.Definition End	VIDEO: Recall Mux nr.
PATROL: Sent Apple peel	VIDEO UNIT: Sent command
PATROL: Sent standard Setup	WIPER/WASHER: Functions not available
PATROL: Sent default pause time	WIPER/WASHER: Function not enabled
PATROL: Sent Start/End	WIPER/WASHER: Select function
PATROL: Sent single pause time	WIPER/WASHER: Sent Wiper
PATROL: Sent Start 1	WIPER/WASHER: Sent Washer
PATROL: Sent Start 2	MATRIX TIMEOUT ALARM
PATROL: Sent Start 3	MATRIX ALARM
PATROL: Sent Start 4	MONITOR: Esc to exit
PATROL: Sent position	ZOOM: Function not enabled
PATROL: Esc to exit	JOYSTICK: Function not enabled
PATROL: Sent "SEQUENCE"	DVR/MUX: Function not enabled
PATROL: Sent "TOUR"	DVR: Esc to exit
PATROL: Sent 'One Pass' Start	MUX: Esc to exit
PATROL: Sent 'Walk' Start nr.	Esc to exit

■ Special Code Chart

These functions can be loaded by entering their special codes.

ERNITEC SATURN **89**
MARK MERCER **90**
PELCO **92**
SENSORMATIC **94**

■ ERNITEC SATURN

Code	Function
AUTOPAN	
301	Saves the current position of the first limit switch.
302	Saves the current position of the second limit switch.
XXX	**XXX= 0 – 255**: Auto-pan speed (0=min, 255=max) Note: Cannot use with Saturn type.
PATROL	
1000	Deletes patrol order.
1XXX	**XXX= 1– 128**: Writes preset position “XXX” into patrol order.
2000 **2XXX**	Makes patrol order valid. **X= 001 – 128**: Deletes preset position “XXX” from patrol order.
3XXX	**X= 000 – 255**: Waiting time (in seconds) upon reaching specified position Example: **“1000”** Deletes previously defined order. **“1001”** Writes preset position “1” into order. **“1005”** Writes preset position “5” into order. **“1006”** Writes preset position “6” into order. **“2005”** Deletes preset position “5”.
OTHER FUNCTIONS	
4XXY	Dome cameras can be set to automatically move to the "return position" after a set stopping time passes. **XX= 01 – 99**: “Return position” (Cannot select positions No. 100 to No. 128) **Y= 0 – 9**: Return time **0**: 10 seconds, **1**: 20 seconds, **2**: 30 seconds, **3**: 40 seconds, **4**: 1 minute, **5**: 2 minutes, **6**: 5 minutes, **7**: 10 minutes, **8**: 20 minutes, **9**: 40 minutes
4000	Invalidates movement to “return position”. Example: “**4216**”: After stopping for 5 minutes (**Y=6**), move to position 21 (**XX=21**).
400	Text display/non-display (switch)
500	Backlight compensation ON/OFF (switch)
9999	Initializes the dome camera internal memory.

English

■ **MARK MERCER**

Code	Function
IRIS MANUAL	
11	Opens the iris.
12	Closes the iris.
ON SCREEN DISPLAY	
21	Screen display ON.
22	Screen display OFF.
23	Screen display on top half of monitor.
24	Screen display on bottom half of monitor.
INFRARED RESPONSE CURVES	
31	Initially set curve (visible light)
32	950nm curve
33	850nm curve
COLOUR/B&W CAMERA	
40	Automatically switch from color to black-and-white, and black-and-white to color.
41	Black-and-white camera
42	Color camera
43	Decreases the camera integration level (decreases shutter speed).
44	Increases the camera integration level (increases shutter speed).
45	Zero lux ON (infrared filter OFF)
46	Zero lux OFF (infrared filter ON)
	Switch level
47	Brighter
48	Initial setting value
49	Darker
PRIVACY ZONE	
51	All zones ON
52	All zones OFF
53	Switches zone-specific cursor (ON/OFF)
54	Switches masking (ON/OFF) depending on cursor status. **Cursor ON**: This code enables placing a small masking on the cursor. When the code is sent again, the masking type changes. **Cursor OFF**: This code enables masking the entire screen. When the code is sent again, the masking is cancelled.
DYNAMIC CONTROL OF ZONE TITLING	
61	Switches title (ON/OFF).
62	Deletes zone.
63	Initializes zone.
DIGITAL ZOOM	
6	Switches to digital zoom (ON/OFF).
1XX	**XX= 00 – 99**: Digital zoom value (when this function can be used for dome cameras).

English

Code	Function
TOGGLE AUTO PARK (ON/OFF)	
2XX	Dome cameras can be set to automatically move to preset position No. 1 after a set stopping interval passes. **XX= 01 – 99**(*): Waiting time (minutes) before automatically stopping (*) when waiting time **XX=00**, the function is invalid. Example: **"205"** Automatically stop after waiting for 5 minutes (**XX=05**) **"200"** Automatic stop OFF (**XX=00**)
TOGGLE AUTO PATROL (ON/OFF)	
1XXY	Dome cameras can be set to automatically start the specified patrol order after a set stopping time passes. **XX= 01 – 99**(*): Waiting time (minutes) before automatic patrolling. **Y= 0 – 5**: Patrol number (*) when waiting time **XX=00**, the function is invalid. Example: **"1153"** After stopping for 15 minutes (**XX=15**), automatically patrols in No. 3 (Y=3) patrol order. **"1003"** Automatic patrol OFF (**XX=00**)
OTHERS	
0	Patrols all positions
1	Switches automatic U-turn (ON/OFF).
2	Aux 1 ON
3	Aux 1 OFF
7	Installed alarm: ON
8	Installed alarm: OFF
10	U-turn

■ **PELCO**

Code	Function
0	Pan 0 position
SPEED CURVES	
11	First speed curve (speed values: 1, 5, 10, 20, 30, 45, 63).
12	Second speed curve (speed values: 1, 10, 20, 30, 40, 50, 63).
13	Third speed curve (speed values: 10, 15, 20, 25, 30, 45, 63).
14	Fourth speed curve (default setting) (speed values: 29, 37, 45, 50, 55, 59, 63).
15	Fifth speed curve (speed values: 10, 15, 20, 30, 40, 50, 63).
16	Sixth speed curve (Can be user customized, but has default settings: 10, 15, 20, 30, 55, 100, 255). (*)
8XXX	**X= 000 – 255**: Speed value (*)
900X	**X= 1 – 7**: Speed number. Values can be allocated.
910X	**X= 1 – 7**: Dome camera operation test at No. X uniform speed. To stop the test, move the joystick. Example: **"8007"**: Speed value equal to 7 (**X=007**) **"9001"**: The 7 speed value is allocated to Speed No. 1 (**X=1**). ... Writes speed value into speed No. 2, 3, 4, 5, 6, etc. **"8138"**: 138 (**X=138**) speed value **"9007"**: Allocates speed value 138 to speed No. 7 (**X=7**). To test speed No. 7 next: **"9107"**: Dome camera moves at uniform speed of 138 (**X=7**). **"16"**: Hereafter, whenever the joystick is moved, the dome camera moves at the speed allocated to the sixth speed curve (**X=16**).
(*) The Pelco D protocol accepts a value of 63 at maximum speed. Correct operation is not guaranteed when set at a higher speed.	
ZONE	
20	Begins zone scan.
21	Ends zone scan.
10X	**X= 1 – 8**: Sets beginning of zone.
20X	**X= 1 – 8**: Sets end of zone.
LENSES	
40	Auto-focus ON
41	Auto-focus OFF
42	Automatically turn auto-focus ON
AUTOIRIS	
50	Auto iris ON
51	Auto iris OFF
52	Automatically turn auto iris ON
ON SCREEN INFORMATION	
60	Automatic gain control device ON
61	Automatic gain control device OFF
62	Automatic gain control device AUTO

Code	Function
ALARMS	
X	Alarm identification (**X is 1 to 8**)
MISC	
99	Cleans screen.
999	Initializes remote camera operations (pan/tilt).
9999	Initializes remote camera operations (to default values).
70	Backlight compensation ON
71	Backlight compensation OFF
80	White balance ON
81	White balance OFF
90	Makes “unit phase delay mode” valid.
3X	**X= 1 – 8**: Zoom speed
13X	**X= 1 – 8**: Focus speed
1000(*)	Shutter speed
1001(*)	Line lock level
1002(*)	White balance R-B adjustment
1003(*)	White balance M-G adjustment
1004(*)	Gain
1005(*)	Auto iris level
1006(*)	Auto iris vertex
(*) After writing the code, a numerical value between 0 and 4000 must be introduced.	

■ **SENSORMATIC**

Code	Function
RELAYS	
0	All relays OFF
1	Relay 1 ON
2	Relay 2 ON
3	Relay 3 ON
4	Relay 4 ON
12	Relay 1 and 2 ON
13	Relay 1 and 3 ON
14	Relay 1 and 4 ON
23	Relay 2 and 3 ON
24	Relay 2 and 4 ON
34	Relay 3 and 4 ON
123	Relay 1, 2 and 3 ON
124	Relay 1, 2 and 4 ON
134	Relay 1, 3 and 4 ON
234	Relay 2, 3 and 4 ON
1234	Relay 1, 2, 3 and 4 ON Example: **"13"**: Makes only relays 1 and 3 valid (Relays 2 and 4 are invalid). **"134"**: Makes only relays 1, 3 and 4 valid (Relay 2 is invalid).
PATTERN	
51	Begins collection pattern 1.
52	Begins collection pattern 2.
53	Begins collection pattern 3.
55	Checks new pattern, and replaces the previous definition.
56	Ends pattern collection.
61	Begins pattern 1.
62	Begins pattern 2.
63	Begins pattern 3.
71	Deletes pattern 1.
72	Deletes pattern 2.
73	Deletes pattern 3. Example: Definition of Pattern 2: **"72"**: Delete old pattern 2 (relates to apple-peel function) **"52"**: Begins collection of pattern 2. The dome camera moves within the display limits. **"56"**: Ends collection. **"55"**: Replaces old pattern with new record. **"62"**: Begins pattern 2.
MISC.	
9999	Initializes remote camera operation

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